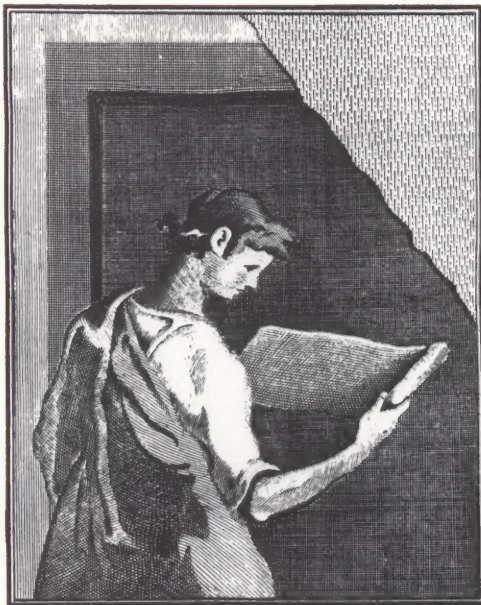


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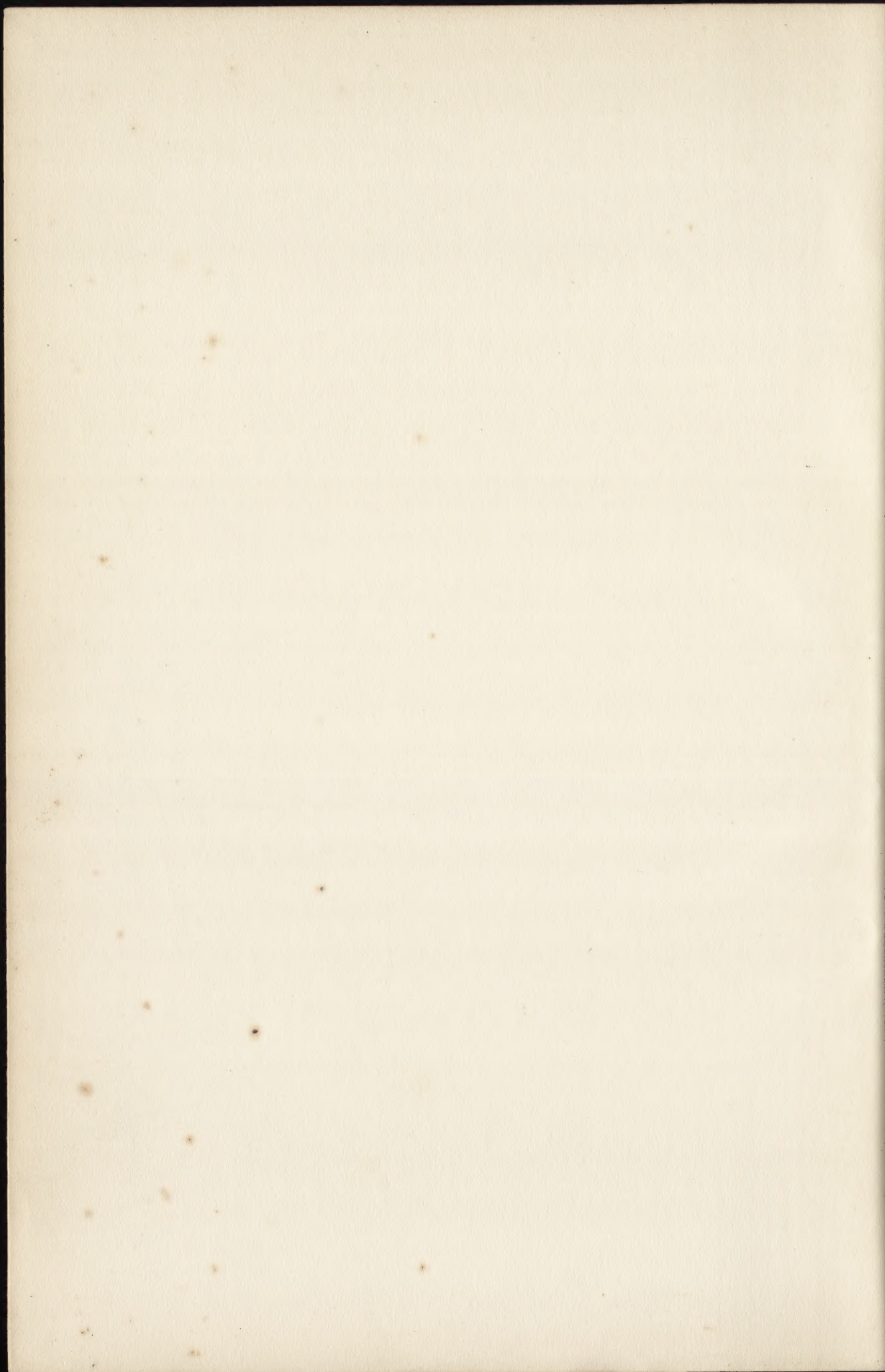
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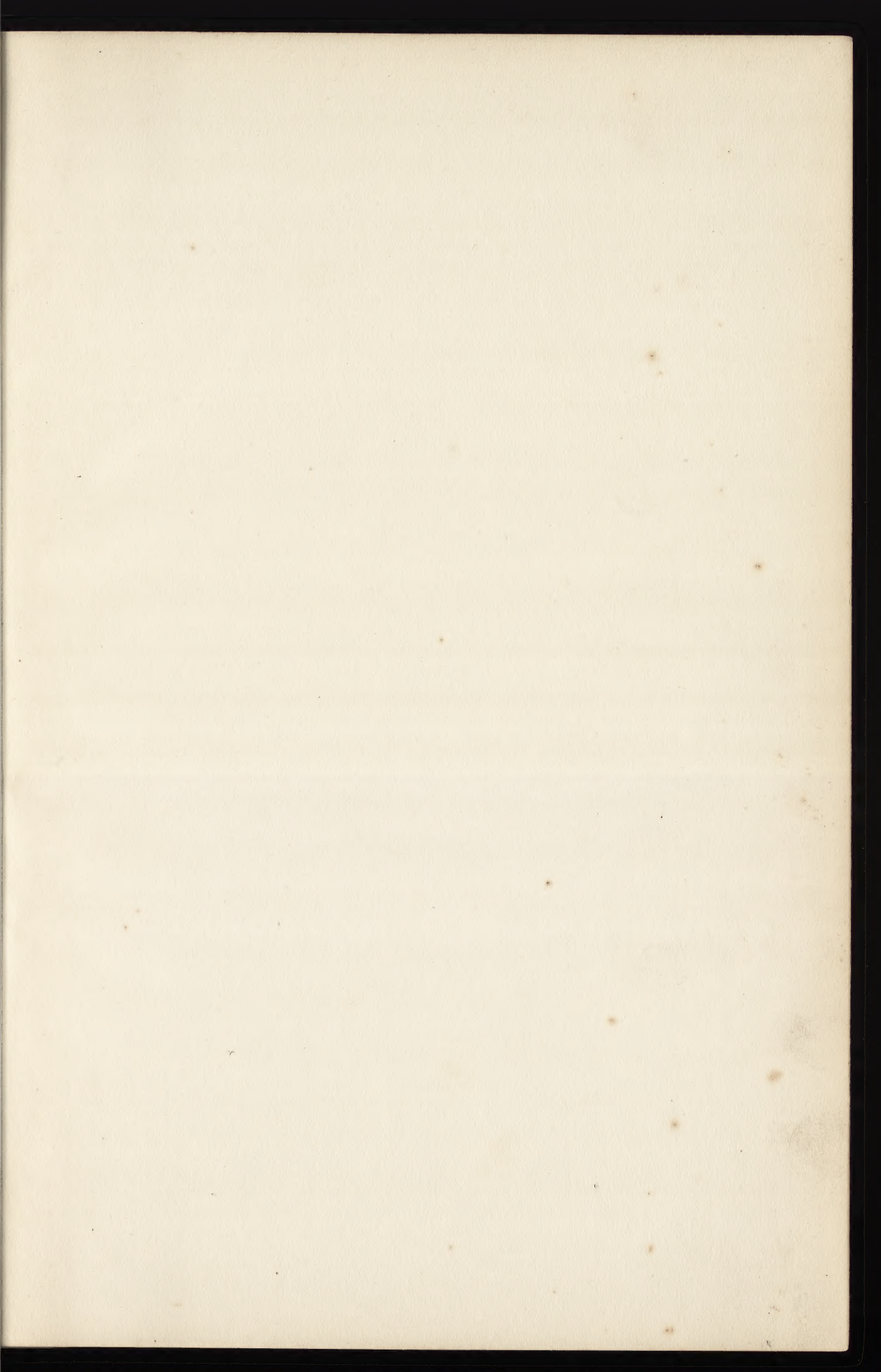
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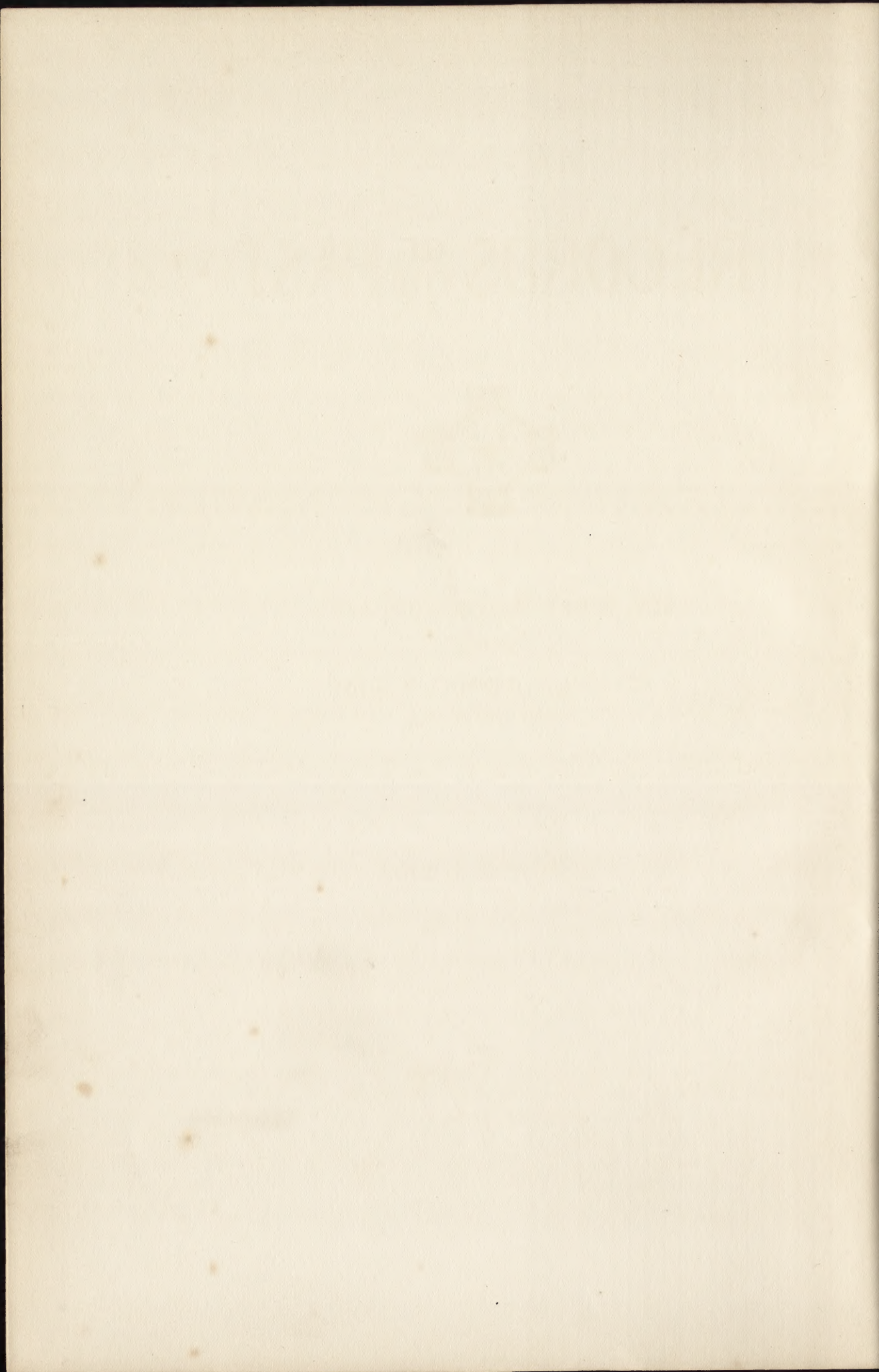














# RECORDS <sup>OF</sup> THE PAST



REV. HENRY MASON BAUM, D.C.L.

EDITOR

FREDERICK BENNETT WRIGHT

ASSISTANT EDITOR

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VOLUME I, 1902

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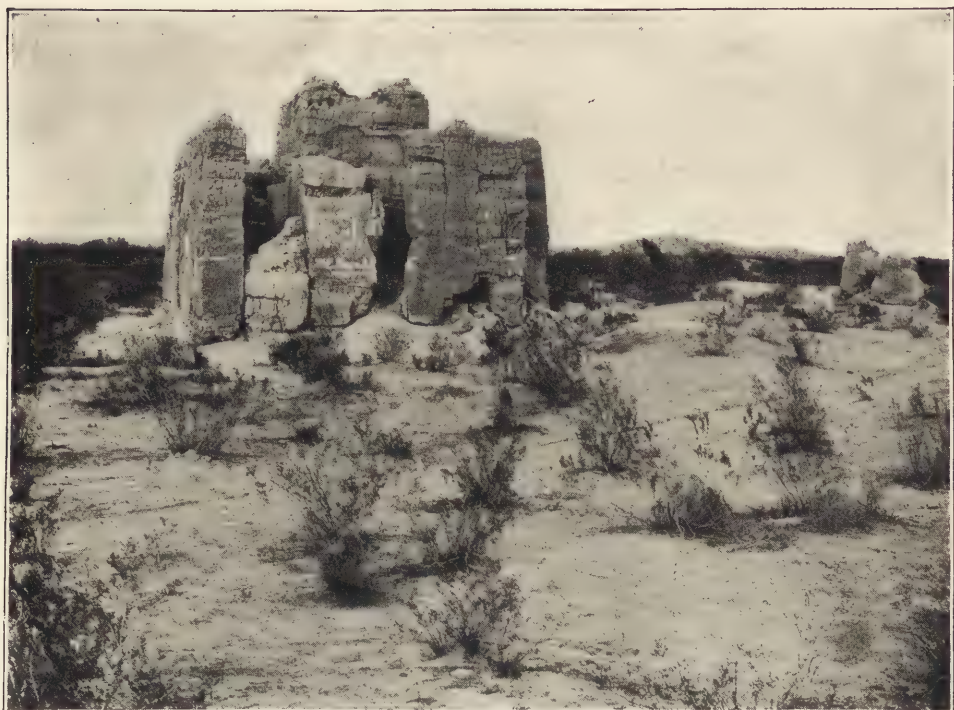
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CASA GRANDE RUIN, ARIZONA.



CLIFF PALACE, MESA VERDE, COLORADO.



# RECORDS <sup>OF</sup> THE PAST

JANUARY, 1902

VOL. I



PART I

## RECORDS OF THE PAST AND AMERICAN ANTIQUITIES

BY REV. HENRY MASON BAUM, D.C.L., EDITOR

THE entrance into the field of periodical literature of a magazine devoted to historical research needs no apology. The XX Century dawns upon an era of unparalleled activity in the search for truth. The explorations of the last quarter of a century have added at least 5,000 years to our knowledge of the history of man. The desire to trace back the history of the human race and follow the development of civilization is no longer confined to the historical student. Many men of culture engaged in the commercial pursuits of the age are not only rendering substantial financial aid to the work of research now being carried on in almost every part of the world, but are as deeply interested in the latest news from the various fields of exploration as in the market reports.

The existence of civilization, and even culture, among races that long since disappeared from the earth—thousands of years before the Christian era—is interesting alike to youth and old age. In ascending the river of time our pardonable conceit over our rapid advancement in the arts and sciences is lessened by the evidences we find on its banks of former dwellers who conducted their business affairs much as we do to-day; conceived and executed great enterprises and were builders not unworthy of comparison with the most renowned of our time. Far back in the past, we find the stream of intellectual and commercial life broad and deep. How many thousands of years we must still go back to find its source, only the excavator, the scholar and time can determine.

Less than 50 years ago we were accustomed to look upon the pyramids and ruined temples of the Nile Valley as the oldest monuments of the world. Not so to-day: we have found that even their builders were an alien race who, when they came to the Nile Valley, found a people in possession of many of the arts of life. In the mounds of the Tigro-Euphrates Valley we find what we may justly call civilization 7000 years B. C., and the earliest foundations have not yet been reached. So far as scientific exploration has determined, the Tigro-Euphrates Valley was the

earliest home of man. From that center the human race spread west to the Mediterranean and the countries bordering on its shores and to the isles of the sea; and east to the Pacific Ocean.

But the most perplexing problem confronting the historian of the human race is the presence of prehistoric man in the Western Hemisphere as the builder of great temples, palaces, mounds and pyramids. Did he find his way here over Bering Strait or now buried continents in the Pacific and Atlantic Oceans? To solve this problem, the archæologist and the geologist must carry on their investigations side by side. The layman must, as he follows them in their work, discriminate between their theories and the actual results of their investigations and discoveries. How long man has inhabited our globe we do not know. We are equally in the dark regarding the age of the earth, and no evidence has yet been discovered that in any way contradicts the grand and noble statement of the writer of old, who said, "God created man in His own image, in the image of God created He him." The more competent the scientific investigator becomes to pass judgment on these and like perplexing questions the less inclined he is to do so.

RECORDS OF THE PAST has been founded to give those in search of the truth regarding the history of man the results of the investigations and discoveries that have been and may be made in the future, and its value will lie in covering the entire work of historical research throughout the world and in rigidly excluding theories and controversies from its pages.

It is most proper in presenting the plans of this magazine to the public that special attention should be called to American antiquities. We shall regard it as a special duty to record the work of historical research in the Western Hemisphere. Many Americans are more familiar with the antiquities of Europe, Asia and Africa than those of the West. And in this beginning of our work we can make no greater contribution to the general subject than by calling attention to the great necessity for protecting the marvelous prehistoric ruins of our own country.

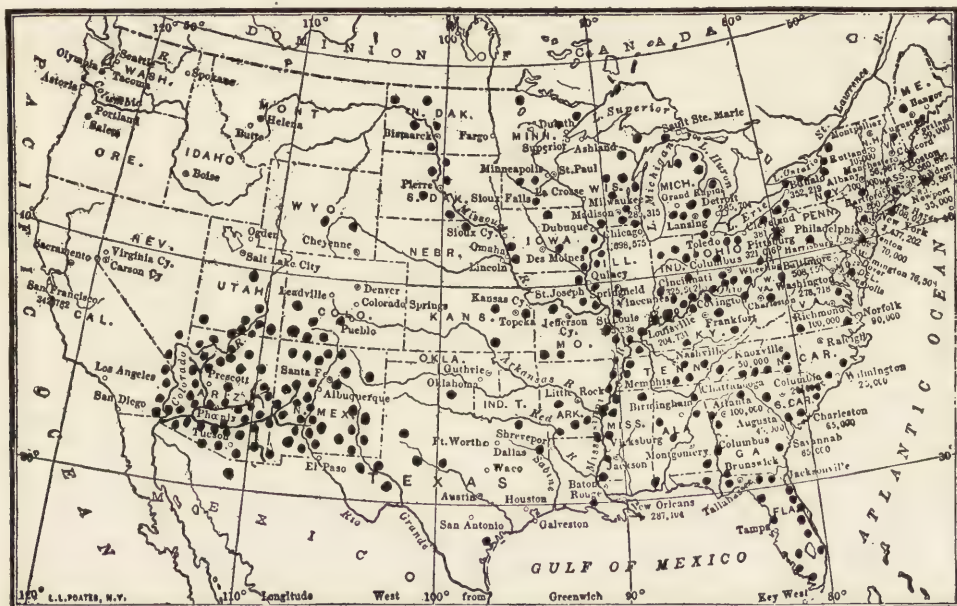
It is said that an English traveler in America offered the following as an excuse for calling on the poet Longfellow without an introduction: "Your country, sir, is so awfully big and new one cannot see it in an age. Then, sir, there are no castles, no ruins to tell of old times; so I thought I would drop in and see you as one of the curiosities." There are Americans who do not consider themselves as old, who can recall a time when they regarded their own country much as the Englishman is said to have done. Not so many years ago portions of Colorado, New Mexico, Arizona, southern Utah and Nevada were marked in our school geographies as "Unexplored Territory." This territory was supposed to be a wilderness inhabited by bears and barbarous Indians, and such was the case. Yet scientific exploration has demonstrated that the land once marked "unexplored" is rich in the remains of forgotten races, and that America rivals in human interest those parts of the Old World which are popularly supposed to be hoary with antiquity.

Because of the historic threads—sacred and profane—that link us to the past, we in America are apt to ignore the archæological wonders at our own door in contemplation of the ruins in the valley of the Nile and along the Tigris and Euphrates. Although known of since the days of the Spanish invasion, it is only of late years that the attention of Americans, of average



intelligence, has been directed to the mighty chain of ruins that extends from the valley of the Gila, in Arizona, to the Isthmus of Panama and along the western coast of South America. We are just awakening to the fact that America has ruins that rival in interest those of the Old World, with the added mystery that we have no tangible clue to the builders of the great mounds in the Mississippi Valley, the cliff dwellings and pueblos of Arizona, Colorado, New Mexico and other parts of the Southwest, and can only speculate as to the name and fate of the race or races that built the pyramids, palaces and temples that excite the wonder of the traveler in Mexico and the Central American States and the wanderer along the Cordilleras.

Remains of the work of prehistoric man have been found in nearly all of the States and Territories of the Union, including Alaska. Ohio is the



MAP SHOWING GENERAL DISTRIBUTION OF PREHISTORIC RUINS, SO FAR AS KNOWN.

only State, so far as we know, that has taken any action for the preservation of its antiquities. It is almost unanimously conceded by those entitled to express an opinion on the subject that Congress should enact a law for the protection of the antiquities of our country. At the present time many of the most important ruins are on land held by the Government. The creation of national reservations or parks embracing the ruins in certain localities is desirable, and necessary in some cases, particularly in the Southwest, but owing to the wide distribution of prehistoric remains such action cannot accomplish the desired object.

The Republic of Mexico has set us a noble example, both by its encouragement of research and the safeguarding of its antiquities, and we must commend the national pride of the Italians in keeping in their country not only their archæological treasures, but their world-renowned works of art, regardless of private ownership. The educational interests

of a country should at least be on a level with its commercial interests. They will not be, in the United States, so long as it permits the wanton destruction of its historic remains of the past.

A national law for the preservation of our antiquities should be general in its character, and the details for its application left to the Department of the Interior. We cannot conceive of the Department ever interfering in cases where ample provisions have been made to accomplish the end in view. The law should embrace the following general principles, viz.:

I. All historic and prehistoric remains bearing upon the antiquity of man should be under the control of the Secretary of the Interior.

II. Excavations in the interest of archæological science and for the recovery of extinct forms of animal life and the removal of whatever found, as a result of such excavations, should not be permitted without the consent of the Secretary of the Interior.

III. A fund should be provided for the care of important ruins liable to destruction from the elements; also for acquiring from private ownership such ruins as, in the judgment of the Secretary of the Interior, should be preserved and protected from despoliation.

IV. The sale of spurious objects of antiquity or manufacture of them for sale as originals should be absolutely prohibited.

V. Adequate penalties should be prescribed for the punishment of those violating the rules and regulations made by the Secretary of the Interior for making effective such legislation.

For many years efforts have been made by persons interested in the preservation of the antiquities of the Southwest to secure the necessary legislation for their protection from destruction by time, tourists and unskillful excavators. The first practical result of these efforts was an Act of Congress in March, 1889, appropriating \$2,000 for the repairing of the Casa Grande Ruin in southern Arizona, a sum entirely inadequate for its preservation. In June, 1892, the President, under the authority of the Act of 1889, directed that a tract of land comprising 480 acres be set apart as a reservation. This reservation embraced the chief ruins in the locality. Unsuccessful efforts have since been made to secure an appropriation sufficiently large to complete the work already begun. Meanwhile, the wooden lintels have been carried away, enabling the elements to almost complete the demolition of the last fragment of the once massive group of buildings that crowned this commanding site.

Every one interested in the history of man on this Continent—and who should not be?—must feel humiliated over the failure of this Government to protect the ruins within its territorial limits,—ruins that bear witness to a race of great builders, long since vanished, and not unworthy of comparison with the builders of the Century that has just closed. This is the only civilized nation that has not enacted laws for the preservation and protection of its monuments and remains of the past. We are at the present time awaiting the permission of the Turkish Government for the Ur Expedition to begin its work on the banks of the Euphrates. Further eastward, M. de Morgan could not begin his work of excavating ancient Susa until the French Government had obtained the permission of the Persian Government for him to do so. It is but the promptings of natural instinct for a nation to preserve its records and monuments of the past. It will surely not be to the credit of Congress if it fails to signalize the dawn



of the XX Century by making laws for the preservation of the monuments that bear witness to the glory and greatness of those which have preceded it.

The failure to pass either of the bills introduced during the past two Sessions of Congress seems to have been owing to objection to the creation of national parks or reservations. But the creation of reservations where prehistoric ruins are located is not desired, except in some few cases in the Southwest. What is needed is general legislation for the whole country. The withdrawal during the past year by the Interior Department of Government lands on which prehistoric ruins are located was a step in the right direction. But the despoliation of ruins and their treasures by unskillful excavators should be stopped at once by the Government. It is to be hoped that the recent vigorous action by some of the citizens of Colorado in this direction may have a salutary influence in other parts of the country.

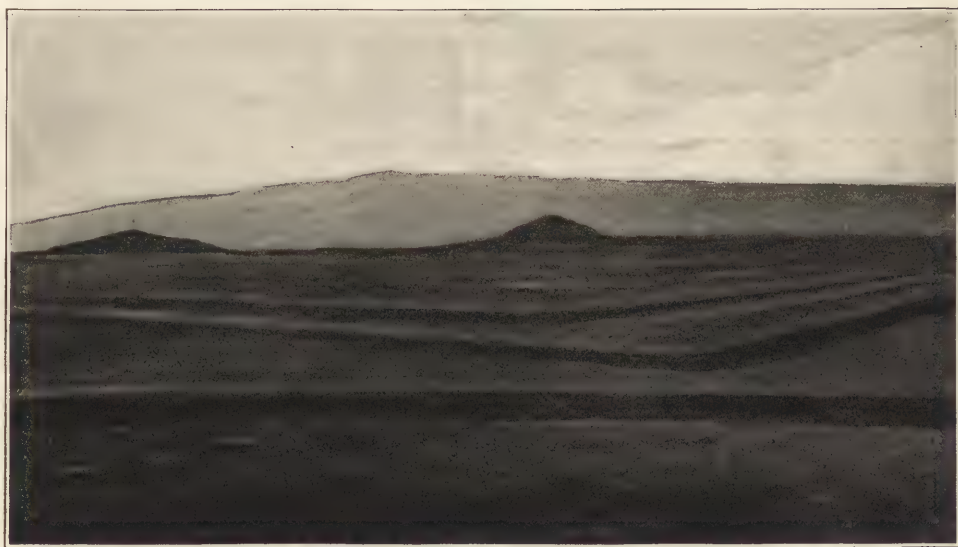
But legislation, either State or national, will not be complete unless the counterfeiter of antiquities is put on a par with the counterfeiter of national coins and currency. The heads of our museums are obliged to devote much of their valuable time to the detection of spurious antiquities, while thousands of dollars are annually expended by unsuspecting private collectors in the purchase of counterfeits.



THE KNAPP MOUNDS, ARKANSAS.



MOUND OUTSIDE THE GREAT WALL OF CHINA, NEAR HANOOR, MONGOLIA.



MOUNDS SHOWING TRENCHES, NEAR HANOOR, MONGOLIA.



## ARCHAEOLOGICAL INTERESTS IN ASIATIC RUSSIA

BY PROF. GEORGE FREDERICK WRIGHT, D.D., LL.D., F.G.S.A.

FROM Finland to Japan there stretches an almost continuous belt of prehistoric monuments that apparently have no connection with any of the races now occupying the region. These consist of barrows or burial mounds of large size, stone circles and huge stone monuments of various types. Such burial mounds, differing in type from anything erected by the present inhabitants, fairly line the way from Tashkend to Semipalatinsk along the fertile irrigated belt which borders the Alatau range, and are conspicuous in Mongolia outside the great Chinese wall not far from Kalgan.

In China so many walls and towers are made from the "loess" that a deserted city or village very soon assumes somewhat the appearance of a collection of mounds; but after eliminating all such collections there are a great number of circular mounds situated upon places favorable for lookout and so symmetrical that there can be no doubt that they were built for a special purpose. During my recent trip to Mongolia many of these were seen, but there was no time to give them special study. The case, however, was somewhat different with a cluster of seven mounds on the edge of the Mongolian plateau, near Hanoor, about 20 miles west of Kalgan. These mounds were a short distance west of the outer Chinese wall and near the great Escarpment of the Mongolian plateau, which here suddenly breaks down toward the east. The elevation is about 5,000 feet above the sea, and the view very grand and extensive, the Chinese wall being visible for 15 or 20 miles as it branches off in two directions running over the summits of the mountains to the southeast and the northeast.

The one of these mounds of which we give an illustration was 490 feet in circumference at the base and about 40 feet high, and it was evidently composed of soil scooped up from the immediate vicinity. In front of it also, there were faint remnants of what seemed to be rectangular earthworks, represented chiefly by what had been ditches, which are now about 2 feet deep and 6 feet wide. Measured on the outside, the rectangle was 340 feet by 400 feet. The resemblance to some of the mounds and earthworks in Ohio is very striking.

Quite similar to these in Mongolia were a large number which we saw south of Lake Balkash, in Turkestan, on the plain along the base of the Alatau Mountains. Here, too, the same remark should be made as concerning those in China, namely, that in many cases the ruins of abandoned cities present a cluster of irregular mounds which might be mistaken for structures of special design. But a large number are so symmetrical and stand in such isolation that there can be no doubt of their having some special design as that which characterized many of the Ohio mounds. Whether they were meant for burial monuments or for lookouts it would be difficult to tell without exploration.

But the Russians are already beginning to make important investigation in various places in Siberia and Turkestan. In western Siberia these



MUSEUM AT MINUSINSK, SIBERIA.



POTTERY FROM THE DISTRICT OF MINUSINSK, IN MUSEUM AT MINUSINSK, SIBERIA.





DEATH MASKS FROM THE PREHISTORIC MOUNDS IN THE DISTRICT OF MINUSINSK, SIBERIA.  
ORIGINALS ARE IN THE MUSEUM AT MOSCOW.

mounds are called by the present inhabitants *chudskyie Kurgani*, "chudish graves," the term "chude" indicating a vanished and unknown race. A probable connection of these mounds with the men of the stone age is shown by the fact that some of the skulls found in them, notably two from a mound near Kiakhta, south of Lake Baikal, are of the prehistoric rather than of the Mongolian type. Mongolian skulls belong to the brachycephalic type, in which the breadth is more than 80 per cent. of the length; but these skulls are distinctly of the dolichocephalic type, the breadth being a trifle over 73 per cent. of the length. In the Irkutsk Museum may be seen many implements of stone, of bone, of mammoth tusks and of carefully worked copper which have been found in other burial mounds in the vicinity of Lake Baikal. These would seem clearly to be older than the bronze age from the fact that no bronze or iron implements have been found in connection with them.

But at present the most interesting archæological center in Siberia is Minusinsk. This is a small city, of about 10,000 inhabitants, situated on the Yenisei River, about 300 miles south of Krasnoyarsk, where the Trans-Siberian Railroad crosses it. The city is in the center of a plain which is about 150 miles long and 150 miles wide, which is nearly bisected by the river. It is completely surrounded by mountains, those on the south side forming the Mongolian border, being 10,000 or 11,000 feet in height. The plain is very fertile and the climate delightful, so that it is not misnamed the Italy of Siberia.

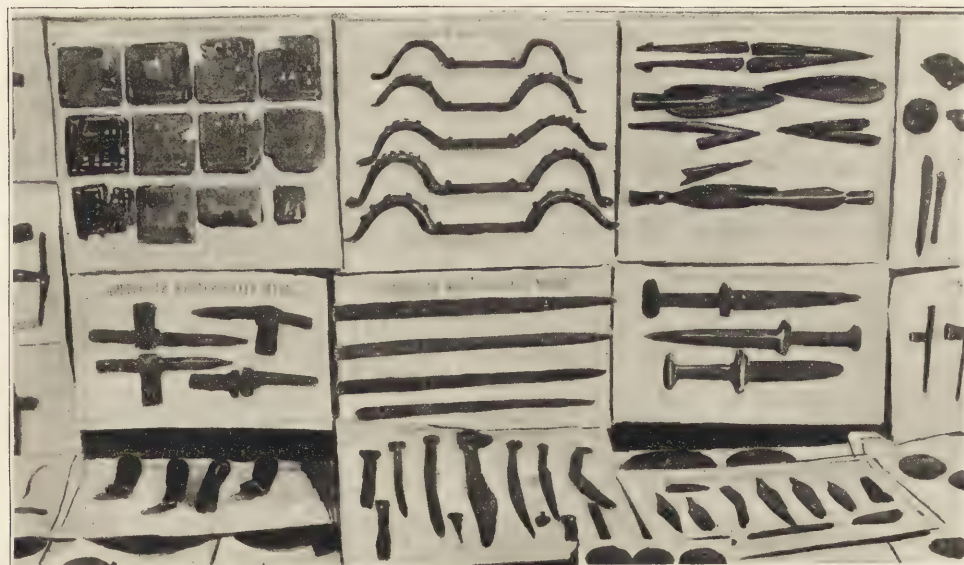
Some twenty-five or thirty years ago among the exiles sent to this place were Prince Alexander Kropotkin and Mr. N. Martianoff, who, with the large freedom allowed them, at once began the investigation of the numerous burial mounds which dot the region. Kropotkin did not remain long, but Martianoff, after his political disabilities were removed, chose to remain as a permanent resident. As a result of his efforts he has seen grow up under his supervision one of the most remarkable and instructive museums in the world. Housed in a practically fireproof building, there are already 60,000 specimens all carefully arranged and classified. Of these 1,746 are anthropological, 11,859 archæological. Among the anthropological specimens are early skulls which have been skillfully trepanned, while the archæological specimens illustrate more fully than anywhere else the transition from the stone through the bronze to the iron age. In fact, the number and variety of bronze implements and ornaments exhumed from these burial places is so great as to be bewildering, while there are many rude crucibles of very early age which represent the earliest processes of making iron.

All the evidence seems to indicate that these skillful mineralogists were the early representatives of the Samoyades, who now occupy the bleak region about the mouths of the Ob and the Yenisei Rivers, extending westward nearly to the White Sea. Indeed, some remnants of this race are still found in secluded valleys in the mountains surrounding Minusinsk. But at the present time the Samoyades in general are sadly degenerated from their former condition, being reduced nearly to the condition of the people who inhabited western Europe during the stone period. This, however, is doubtless due to the inhospitable character of the country to which they have been driven by the Mongol races, which pressed upon them from the south. Among the evidences of this Mongol invasion to be seen in the





BRONZE AND IRON-WORK, IN MUSEUM AT MINUSINSK, SIBERIA.



IRON IMPLEMENTS, IN MUSEUM AT MINUSINSK, SIBERIA.



STONE IMPLEMENTS, IN MUSEUM AT MINUSINSK, SIBERIA.



MOUND AT THE FOOT OF THE ALA-TAU MOUNTAINS, TURKESTAN.



Minusinsk Museum are Chinese ornaments dating from the Han dynasty, which flourished before the Christian era.

This museum is being carefully studied both by Mr. Martianoff and his chief associate, Mr. K. Goroschensko, who occasionally issue bulletins of progress, and by committees of the museums at Moscow and Copenhagen, both of whom have published elaborate reports, the latter containing several hundred photographs.

But the number of museums in Asiatic Russia is so great as to be fairly bewildering. We found museums of great interest and presided over by men of marked ability in Vladivostok, Khabarovsk, Blagovyeschensk, Irkutsk, Minusinsk, Yeniseisk, Tomsk, Omsk, Biisk, Tashkend and Tiflis; in the latter place the museum enjoying still the presence and supervision of the very eminent botanist Radde. At Tashkend one begins to meet indications of the Grecian occupation which followed the conquests of Alexander. Alexander himself spent nearly two years in a vain endeavor to subdue the Sythians, who hung like a cloud over the northern frontier, and finally founded a number of Greek cities in Bactria, on the Oxus River. For several centuries a Greco-Bactrian kingdom was here maintained, and the museum at Tashkend has been successful in finding a large number of coins dating back to that early period. Shortly before I had visited the museum, they had found the bronze cast of a camel's leg, showing the influence of the Greek occupation. This justly attracted much attention, a German professor having recently made a journey on purpose to see it and declaring that it was well worth the effort. Undoubtedly there are in Merv and Samarkand rich archæological treasures to be found, illustrating the influence of the Grecian occupation, which penetrated much farther into the interior than the Roman arms ever did.

Another line of research bearing upon the life and movement of prehistoric people in Asia connects itself with the great work which the liberal gifts of Mr. Jessup, of New York, is enabling Prof. Putnam to accomplish in tracing the connection between the American Indians and the native tribes of northeastern Asia through a comparative study of their languages, their social customs and their physical characteristics. Indeed, it can be said with considerable confidence that through these investigations, aided by some educated Siberian exiles, this question is now fairly well settled. All things point to a line of migration open in prehistoric times through Siberia across Bering Strait into North America over which there was free movement both for man and for the unwieldy mammoth whose remains are freely associated with man's all around the northern hemisphere from Great Britain to Alaska and the Atlantic Coast of America.

To this conclusion geology gives material support in the evidence which it brings forward of the changes of level which have occurred in the vicinity of Bering Strait, where an elevation of only 180 feet would now form a continuous land connection between Asia and America. Much light is also shed upon these early movements both of man and animals from the indubitable indications of the prevalence during very recent geological times of a moister and a more equable climate in northern Asia than that which now prevails. In short, while western Asia offers to the world the most inviting field for studying the written records of the past, northern Asia promises to yield more fully than any other portion of the earth the most satisfactory evidence relating to the prehistoric distribution of the race.



A VOTIVE ADZE OF JADEITE FROM MEXICO, SHOWING FRONT, BACK AND SIDE.



## A VOTIVE ADZE OF JADEITE FROM MEXICO

BY MARSHALL H. SAVILLE

IN the archaeological collections from Mexico and Central America the American Museum of Natural History possesses several specimens of carved jadeite of a remarkable character. Among these the so-called "votive" adze in the Kunz collection, secured some time ago, is one of the most interesting. It has until now never been figured, but was described by Mr. Kunz in his work *Gems and Precious Stones of North America* [pp. 278-279]. In the accompanying illustration it is figured less than one-half its natural size, the adze being 10.13-16 inches in length and the illustration is  $4\frac{1}{2}$  inches. The following account appears in the above-mentioned work:

Among the more remarkable jadeite objects of Mexican origin is an adze described by the author, believed to be the largest yet found. On its face is figured a grotesque human figure, and for so hard a material the workmanship is excellent. It is said to have been found about twenty years ago in Oaxaca, Mexico. It measures 272 mm. (10.13-16 inches) in length, 153 mm. (6 inches) in width, and 118 mm. ( $4\frac{5}{8}$  inches) in thickness, and weighs 229.3 Troy ounces. Across the ears 153 mm. (6 inches), across the lower axe end 82 mm. ( $3\frac{1}{4}$  inches), height of head to neck 158 mm. ( $6\frac{1}{4}$  inches), height from chin to foot 115 mm. ( $4\frac{1}{2}$  inches), and the legs 50 mm. (2 inches). From the back a piece about 160 mm. ( $6\frac{1}{4}$  inches) long and 50 mm. (2 inches) wide has been removed. The color is light grayish-green with a tinge of blue, and streaks of an almost emerald-green on the back. In style of ornamentation it very closely resembles a gigantic adze of granite, 57 cm. long and 34 cm. wide, mentioned by A. Chavero [*Mexico à travers de Los Siglos*, Mexico, 1886, p.64], and it has almost a counterpart in the green aventurine quartz adze now forming a part of the Christy Collection at the British Museum, and formerly in the possession of Percy Doyle, of the British diplomatic service, differing from these two objects, however, in having no ornamentation on the forehead, and in having four dull markings on each ear, one under each eye and one near each hand, which seemingly could have served no other purpose than to hold thin plates or films of gold, which the polished surfaces would not do. If this was so, no trace of the gold can now be seen. From all appearances, this adze was shaped from a boulder, since weathered surfaces, such as appear on all sides of it, would be found only on an exposed fragment. The lapidarian work on this piece is probably equal to anything that has been found, and the polish is as fine as that of modern times. One point of interest, which should not be lost sight of, is the removal of a portion which has weighed fully 2 pounds. \* \* \*

Fully one-eighth was removed from the back of this adze, and the manner in which the instrument used in the removal was held has produced a rounded cut on each side, lending probably to the supposition that some abrasive was employed, drawn with a string held in the hands or stretched across a bow. If the Aztecs knew of the existence of the sapphire, we can more readily understand how they worked so large a mass of tough and hard material. So far as the writer has been able to ascertain, no similar object of equal magnitude and archaeological interest exists. Neither the Humboldt celt, the Leyden plate, the Vienna adze, nor the one in the Ethnological Museum at Dresden, which weighs only 7 pounds, and is entirely devoid of ornamentation, can compare with it.

All the salient features of the adze are well brought out in the plate.

The dull markings mentioned by Mr. Kunz were to be seen only by a close examination, and I have found other markings which make a unit of the whole design. These lines are rendered visible to the casual observer by the whitening. It will be observed that the edge has what appears to be teeth, possibly symbolizing the biting or cutting nature of this part of the votive adze. The mask-like face, with the upper jaw represented pressed upward against the nose, is characteristically a feature of southern Mexican art, and from the presence of sharp canine teeth apparently represents a tiger mask. That this object was used as an idol, or for ceremonial purposes, is clearly evident from its size, weight and symbolism. During the past 10 years hundreds of jadeite objects have been found in the state of Oaxaca, but up to the present time no boulders or rough pieces of this material have been found. It is an interesting problem as to the source of jadeite in Oaxaca. From our present knowledge it seems extremely probable that a careful search made in the Department of Villa Alta, or possibly in the Misteca, would reveal the place where it was obtained by the Indians.

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### POMPEII: ITS LIFE AND ART

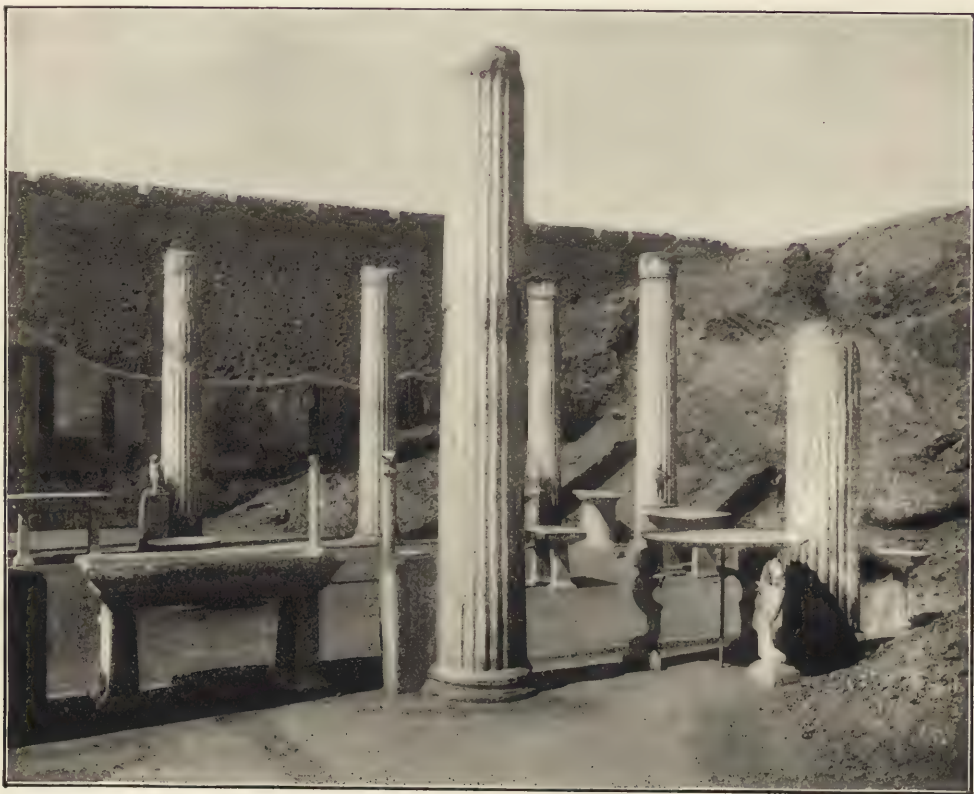
BY ALBERT A. HOPKINS

THERE is no city of the antique world of which we know so much as Pompeii, a place whose sudden extinction was, perhaps, the greatest thing for Roman archæology which could have happened. Those who wish to write on Pompeii in a scholarly way should approach the subject with great caution, for the literature devoted to it is immense, and more than five hundred titles are given in Furchheim's *Bibliografia di Pompei*. There has been a need of a proper hand-book on Pompeii for some time, and certainly no one is better fitted for the task than Professor Mau, who has devoted himself to the study of Pompeii for 25 years, spending his summers in the old city and the winters in Rome, working up the new material. His contributions to the literature of archæology have been well received, but the present work is an entirely new book, published for the first time in English. The warmest thanks are due to Professor Kelsey for the admirable manner in which he has performed his task; it must, indeed, have been a labor of love, and we cannot praise too highly such an admirable work, which is all that a book on archæology should be,—scientific, enlightening and withal readable. The publisher has also done his part by furnishing 12 plates and 263 engravings from photographs or drawings, many of which have never before been published. Our review is illustrated by large-scale photographs of an interesting nature, for which the translator of Mau's Pompeii is not responsible.

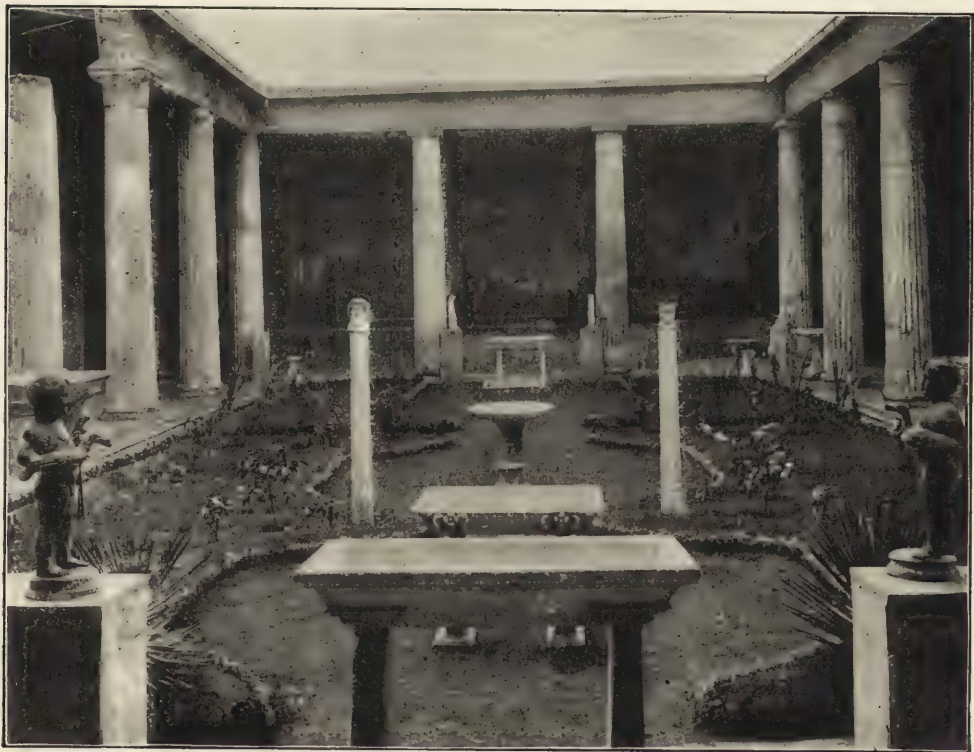
The task of the writer of a book like the present is complicated by the fact that the Campanian city was of small importance in the world; we

*Pompeii: Its Life and Art.* By AUGUST MAU, of the German Archæological Institute in Rome. Translated into English by Prof. FRANCIS W. KELSEY, University of Michigan. New York, 1899, The Macmillan Company. 8vo. Pp. XXII and 509, map and numerous illustrations.





EXCAVATION OF THE HOUSE OF VETTIUS, POMPEII.



RESTORATION OF PERISTYLE, HOUSE OF VETTIUS, POMPEII.

know of no great Pompeian, so that the ruins must be interpreted with little help from literary sources, as is not the case with Rome or Athens, and it is the task for the archæologist to rehabilitate the old city. With the limited space at our disposal we can only glance at a few points culled from the book we are reviewing.

Pompeii lay nearer the sea and the Sarno than at present. It stood on an elevation a third of a mile from the sea, and it offered an ideal spot for a *villegiatura* or a permanent residence. The climate was nearly perfect, short and mild winters giving place to long springs and autumns, and in summer the heat is not very oppressive. The situation offered most beautiful views, and it is easy to see why Pompeii was popular. The founders of the city were Oscans, and there was at all periods of its history a strong undercurrent of Greek influence. Of its history and mode of government we do not know as much as we would like, but as we have said, it was a place of small importance, and would in all probability have been "unknown to history" had it not been for the terrible eruption of 79, of what was supposed to be an extinct volcano. The inhabitants engaged in commerce, agriculture, fisheries and did quite a business in millstones. At the time of the eruption there may have possibly been 20,000 inhabitants, and this population was a very mixed one, including those born in various parts of the Roman world, the Greek element being particularly strong. Jews were also in evidence, and we can find no proof that Christians lived and worshipped there.

Pompeii was in some ways an unfortunate city, for in A. D. 63 it was visited by an earthquake, which threw down most of the buildings in the city, and there was just about time to rebuild the public buildings comfortably when the great catastrophe occurred. It is fortunate for us that the city was practically rebuilt, as we have the example of a city built nearly all in one period. The history of the eruption is well told by Prof. Mau. The damage was done by volcanic ash and pumice made into a kind of muddy rain, combined with earthquake shocks. The woodwork was not set on fire, but was dessicated and charred, and it has in some cases been preserved, and many of the walls are to-day turned a red color, while they were originally painted a yellow. All the indications point to the fact that a copious rain fell with the ashes. All scholars treat the subject of the number of lives lost with a wise reserve. Professor Mau estimates the number at 2000, and this seems to be a careful and conservative statement. One fact is certain, that those who were able-bodied and appreciated the danger had ample time to get away.

The first searches were made in the ruins by treasure-seekers, the first real digging being done toward the middle of the XVII Century. In the latter part of the last Century the greatest possible care has been taken to preserve the wall paintings, etc., and the work has been very systematically carried out. In 1872 Fiorelli estimated that it would require 60 years to excavate the entire city, and as the work is now being carried on so slowly the XX Century will hardly see the end of the excavation. Small articles are taken to the museum at Naples, but occasionally the sculpture and wall paintings are left in the position where they are found, as in the case of the house of the Vettii.

The city formed an irregular oval four-fifths of a mile long and two-fifths of a mile wide; it was surrounded by a wall and there were eight





VIEW OF THE FORUM OF POMPEII, LOOKING TOWARD VESUVIUS.



STREET VIEW IN POMPEII.

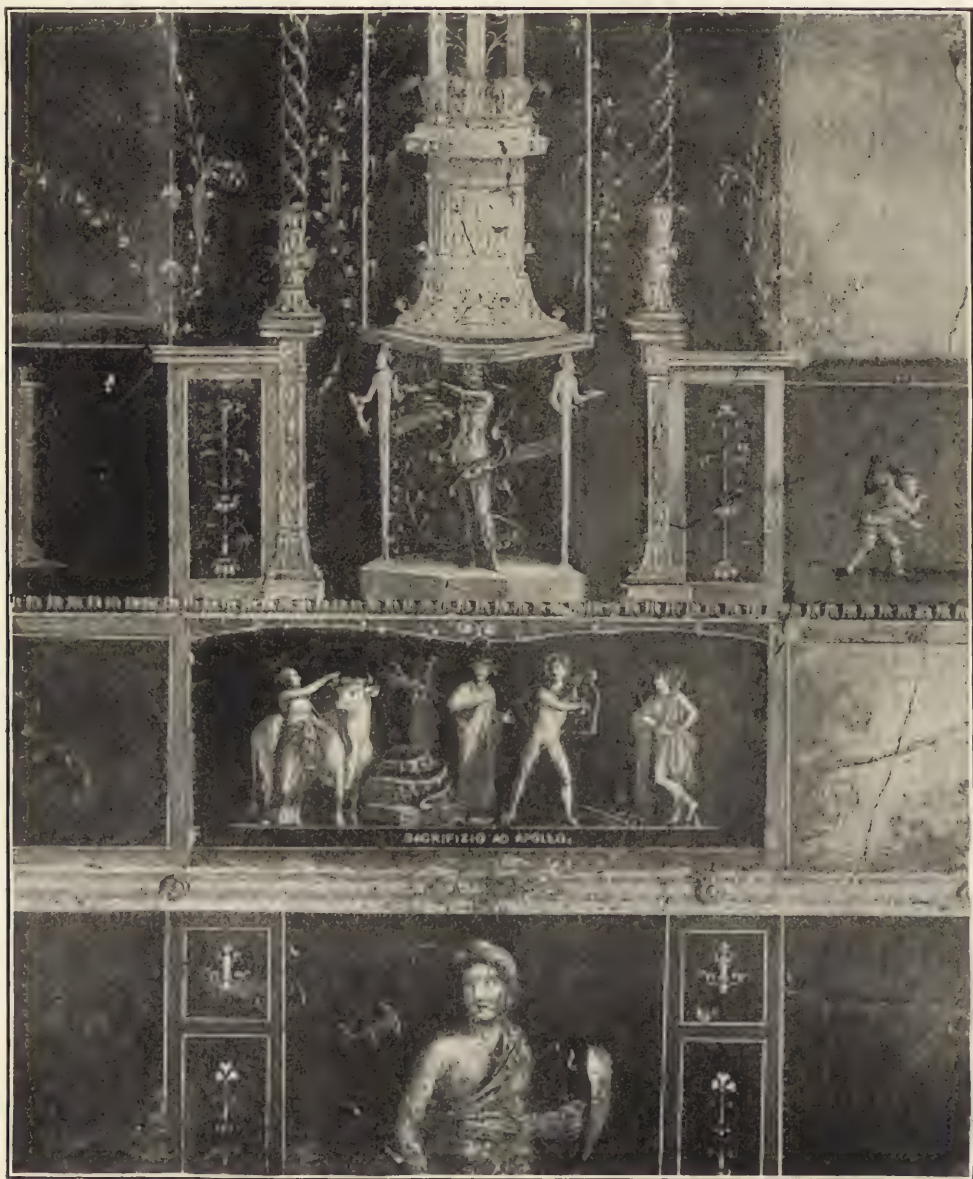
gates. The streets are laid out with great regularity and the public buildings form two groups, one lying about the Forum and the other is formed by the two theatres and the large colonnade. There are in addition baths and an amphitheatre. The earliest and latest buildings in Pompeii were separated by six centuries, so there was naturally considerable diversity of building materials. Wood was freely used as well as limestone, tufa, brick and marble; the usual Roman methods of construction were used.

The Forum is almost the first object of interest reached, being directly in line with the Strada della Marina. It measures 497 by 156 feet, including the colonnade. No vehicles of any kind were permitted in it, as was evidenced by the upright stones which barred all passage to chariots or carts. Gates were provided, so that even the pedestrians could be kept out if desirable. The Forum was given up to temples, markets and buildings devoted to civic administration, and no private houses opened on the area. The statues which once adorned it are now all lost. The Forum lacks unity both in its plan and its architecture, and its development is clearly traced by Prof. Mau. It was first of all a market place. Early in the morning the country people brought in their produce, and all day long tradesmen sold their wares. It was the busiest center of the city, and the favorite promenade and lounging place as well, the inviting colonnades furnishing protection against both sun and rain. Besides the open space, the Forum had grouped around it the Basilica, the Temple of Apollo, the Market Buildings, the City Treasury, the Temple of Jupiter, commemorative arches, the Macellum (or provision market), the Sanctuary of the City Lares, the Temple of Vespasian, the Comitium, or voting place, and the Municipal Buildings. Everything is arranged with reference to compactness. The most important religious festivals were celebrated in the Forum, and it was also used for games and contests, and very probably in the early days for gladiatorial contests. It is possible that the gates were closed on such occasions, and even that a fee was charged for admission to certain parts of the enclosure. Unfortunately here, as elsewhere, we have no record of events. The Temple of Jupiter dominates the Forum. It was wrecked by the earthquakes of A. D. 63, and at the time of the eruption the work of rebuilding had not yet commenced. The Temple stands on a podium, and nearly one-half its length is given up to the cella. There are pivot holes in front of the doorway upon which swung the massive double doors.

The Basilica was the most magnificent and architecturally the most interesting building at Pompeii. Its construction and decoration point to pre-Roman time. Like all basilicas, it was chiefly used for the transaction of business and the administration of justice; matters concerning the latter being considered in a small, oblong, elevated room back of the central hall, towards which it opened in its whole length.

The Temple of Apollo had been completely restored after the earthquake, and on the whole more complete information is at hand regarding this sanctuary than is the case with any of the others at Pompeii. In one of the small buildings at the northeast corner of the Forum stood the table of standard measures now in the Naples Museum. It consisted of a slab of limestone in which are bowl-shaped cavities with holes at the bottom through which the contents could be drawn off. The Macellum was formerly called the Pantheon. There is a courtyard in the center rectangular in shape





DECORATIVE WALL PAINTING, HOUSE OF VETTIUS, POMPEII

and surrounded by a colonnade. In the center of the courtyard are twelve vases arranged to form a dodecagon. These bases supported a roof under which fish was sold, the scales being thrown in the basin in the center connecting with a drain, great quantities of them having been found. Behind the colonnade was a row of market stalls. Pens with remains of slaughtered sheep and a large market room with counters have been found. There was also a chapel and banquet hall. Next to the Macellum was the Sanctuary of the City Lares, an ornate marble building. Some of this is the Temple of Vespasian; it was not entirely finished at the time of the eruption. The so-called Building of Eumachia was of considerable extent and was probably a cloth market or bazaar. The Comitium and the Municipal Buildings at the southern end of the Forum finish out this remarkable group of buildings, of which so much has been lost and so much saved. Prof. Mau shows the critical faculty admirably in the 73 pages devoted to the Forum; the views regarding the uses of the various buildings or parts of buildings being carefully weighed.

The Forum Triangulare also offered a remarkable series of buildings. It was not far from the main Forum and includes a triangular space, an open air Gymnasium, a large Theatre, a small Theatre, Barracks for Gladiators, Temples of Zeus and Isis. Of the ancient Doric Temple in the Forum proper but little remains; it was evidently in ruins at the time of the eruption. The Theatre at Pompeii is proof that in the II Century B. C. at least one Campanian city had dramatic representations of a high order. The cavea, or funnel shaped portion, affords seats for 5,000 persons; it lies on the slope of a hill; some of the seats seem to have been numbered for reservation. The stage is long and narrow, the rear wall, as in most ancient theatres, representing the front of a palace, entered by three doors and adorned with columns and niches for statues. A narrow room behind the stage was used as a dressing room. One of the rooms under the stage was used for theatrical machinery, the scanty remains of which arouses our curiosity without satisfying it. There seems to have been a windlass arrangement possibly, by which floating figures were brought upon the stage and the familiar *dues ex machina*. The scenes were changed as in modern theatres, only the various painted decorations were stacked up against one another, the outer one being removed after the first scene, disclosing the next lower. The winged scenes were changed by having huge three-sided prisms on each side, one of each for a different scene, and they could be turned at will. The mounting of plays at Pompeii must have been infinitely more realistic than in Shakespeare's time. The theatre in Italy was an importation from Greece, and they were also used for public meetings. A reservoir back of the theatre was used to contain the saffron-colored water used to modify the temperature of the theatre. The small theatre was probably largely used for musical entertainments, the roof doubtless adding to the acoustic effect. Its seating capacity was about 1,500. The Theatre Colonnade was used as a barracks for the gladiators, although intended as a shelter for the theatre goers. The large original space was cut up into small rooms arranged in two tiers; they are not more than 12 feet square, and the doors are very narrow. Weapons of all kinds were found in these rooms, and even the remains of stocks show that discipline was not neglected. Let us hasten to add that they were untenanted at the time of the eruption.



The Palæstra was probably intended as a small open-air gymnasium for boys.

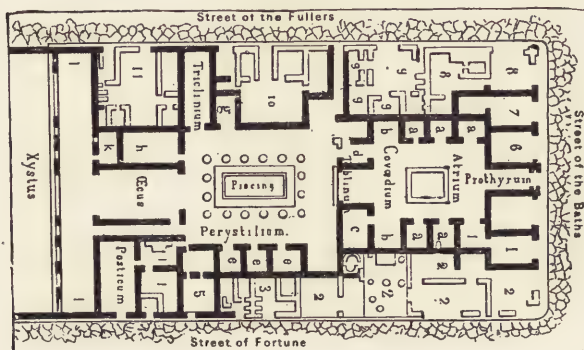
The Temple of Isis has of course the glamour of romance thrown about it by a great novelist. The deities worshipped here were of course of Egyptian origin, but there is nothing in the architecture which suggests Egypt. It is gaudily decorated with stucco ornaments. Prof. Mau deals interestingly with the worship of the divinities to which the temple was consecrated.

The Baths of Pompeii were naturally on a small scale, but owing to their excellent preservation, and the certainty with which the uses of the various rooms can be assigned, we derive most of our information regarding the arrangements of ancient baths. It is not necessary to dwell upon the uses to which such baths were put; a bath was the same in both Rome and Pompeii, only the imposing and barren remains of the former do not tell us as much as the smaller and cheaper buildings of the Campanian city. The largest and oldest bathing establishment was the Stabian Baths. On the front were shops, and the usual rooms of a Roman bath were provided. Bathers probably awaited their turn, and the caldarium accommodated perhaps ten. As originally constructed, the baths had neither hollow walls nor floors, all the heating being done by braziers; later, hollow walls and floors were added and the baths became modernized. Sun dials were an important part of the equipment of such baths. The bathing establishment, near the Forum, is smaller and simpler in arrangement. Light was admitted to the dressing room by a window, closed by a pane of glass, half an inch thick, set in a bronze frame that turned on two pivots. The Central Baths were designed to be up to date and were not completed at the time of the eruption.

The Amphitheatre lies at a distance from the other excavations. The Campanians were fond of gladiatorial combats, so that it is not surprising that Pompeii should have had one at an early date. Its exterior elevation is low, the arena and the lower seats being below the level of the ground to save the expense of masonry. Its length is 444 feet, breadth 342 feet, which is small, compared with other amphitheatres. The limited means of the city was shown by the lack of underground chambers, lifts, etc. The wall around the arena was covered with paintings at the time of discovery. There are 35 rows of seats, accommodating 20,000 spectators. It was unnecessarily large for the place, and sections were provided with seats, at a time, those who could not obtain seats being compelled to sit on the sloping bank of the excavation. The Pompeians were hospitable and extended courtesies to surrounding places when there was what they called "the show." On one occasion the inhabitants of Nuceria came to witness the combats, and bantering led to a free fight, in which many were killed and wounded. The Nuceria carried the matter to the Emperor, who forbade the Pompeians to give any gladiatorial combats for the space of 10 years.

The widest street in Pompeii has a breadth of 32 feet, the average width varies from 10 to 20 feet. They are nearly all paved with polygonal blocks of basalt, which were fitted with care. There were sidewalks with curbing. Broad ruts were made by wheels; but only the principal streets were wide enough for two vehicles to pass. It is thought likely that driving was forbidden, wheeled vehicles being only used for traffic. Stepping stones

were provided at intervals, particularly at the corners, draft animals having enough freedom to pass their vehicles by them. Pompeii was subject to heavy rains, so that the stepping stones were a necessity. Some of the covered conduits are still in use to carry off surface water. The sewers were intended for surface water, house sewage being collected in cesspools. The business streets can be easily picked out to-day. The source of Pompeii's water supply has not been discovered, but we know that it was abundant.



PLAN OF THE HOUSE OF PANSA.

1. Owner's shop or office.—2. Bakery.—3. Apartment or shop rented.—5. Private entry.—i. Kitchens.—Posticum or side entrance.—l. Portico.—Xystus, or garden.—Æcus, or dining-room for guests.—k. Cabinet.—h. Lararium, or household chapel.—11. Apartment rented.—Triclinium, or family dining-room.. Peristylum, open court with Piscina, or fountain. Columns.—e and g. Bed-rooms.—8 and 9. House and shops rented.—7 and 6. Shops. Prothyrum, main entry.—a. Atrium, or court yard. Cavœdium, reservoir in center.—a. Guest chambers.—b. Recesses.

of civil administration. The fortifications form a massive and conspicuous part of the ruins. We now come to what is in many ways the most interesting buildings in Pompeii—the private houses.

It is to Vitruvius and the remains of Pompeii that we owe most of the information which we possess regarding Roman domestic architecture. The apartments were grouped around a court, taking the light from the inside. The houses of Pompeii showed that they were intended chiefly for use in the summer, being provided with colonnades, gardens, etc., heating arrangements being found only where there were private bathing apartments. Heating was done by braziers. The arrangements will be understood by reference to the plan of the house of Pansa, which contained many small rooms, and is, perhaps, as complicated an example as can be found. Folding doors closed the entrance, and they were provided with elaborate locks and bolts. Some houses were provided with a vestibule. The Atrium was usually opened to the sky, the roof sloping to the center. In the center was usually a basin to catch the rain water. Prof. Mau considers that the Atrium was really a room, rather than a court. The Tablinum was a room at the rear of the Atrium, and was a smaller apartment. It was used as a dining-room. Around the Atrium were often sleeping rooms, and the Andron was the passage at the right or left of the Tablinum.

The Andron was lacking in small houses. Most Pompeian houses had a Peristyle; this was a garden enclosed by a colonnade. Sometimes the

There were many fountains along the streets, and the baths seem to have been amply provided with water. Private houses were also well supplied, the house of the Vettii having sixteen jets. The water pipes were made of sheet lead folded together, the transverse section having the shape of a pear. The flow of water was controlled by stop cocks. There were many shrines along the streets. Pompeii did not possess a very good system of defences, and the gates, long before the eruption, were of value only in matters





BACCHUS AND ARIADNE. HOUSE OF VETTIUS.



WALL PAINTING, HOUSE OF VETTIUS. IXION TIED TO THE WHEEL.

columns were found only on two or three sides. The sleeping rooms were built in earlier times around the Atrium, and in later times around the Peristyle. They usually had two doors, one for summer and one for winter use. The bed was usually in a narrow alcove. The Pompeians usually ate in the Triclinium. The couches usually accommodated three persons each, and were often built of stone, and were of course covered with cushions. A lattice work, supported by timbers, frequently carried a vine, which gave an atmosphere of the country to *al fresco* entertainments. The children sat on low stools at a table of their own. In a number of the finest houses a large apartment was provided for dinners, where there were a number of guests. The kitchen had no fixed location, and was a small room. The hearth was built of masonry, and the fire was made on the top and the cooking utensils supported on it. Sometimes there was a bake oven, probably for pastry, bread being obtained from the bakers. Some of the houses had a private bath room.

The remains associated with domestic worship are numerous and important. Painted representations of household gods were often found near the hearth. A small niche was often made in the wall, in which were placed little images of the gods. Sometimes a diminutive temple was raised on a foundation in the Atrium. Rarely there was a special chapel. At every meal a portion was set aside for the beneficent spirits, the food being put in little dishes.

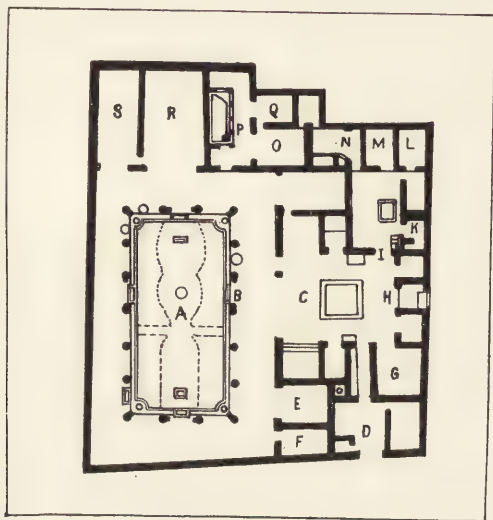
With few exceptions the earlier houses had only one story, but in later times second story rooms were built, but it is rare to find evidences of a complete second story. Houses of three stories were very exceptional. A dining room was sometimes constructed on the second story. The outer parts of the house, fronting on the principal thoroughfares, were utilized as shops. They opened on the street, and the counter was frequently built of masonry. Portions of the upper floors and the back rooms were used to store goods. The fronts were closed with shutters.

The walls of the houses were covered with plaster and painted. The floors were of concrete, tile or mosaic. The windows were few and small and were closed by wooden shutters. Small panes of glass were sometimes used; they were ordinarily set in masonry.

Prof. Mau then describes various houses in detail, a chapter to each, including the House of the Surgeon, House of Sallust, House of the Faun, House of the Silver Wedding, the House of Epidus Rufus, the House of the Tragic Poet, the House of the Vettii and others. Space forbids to do more than glance at one of the houses, and the "House of the Vettii" will be selected as being a choice example of its class. It was only excavated in 1894-1895, and we show the house in course of excavation. The exterior was unpretentious, and the interior is somewhat out of the ordinary, the Peristyle and Garden being quite large. The columns of the Peristyle are well preserved and a part of the entablature remains. Those in charge of the excavations have done wisely in trying to give the house somewhat the appearance of the old days. The roof has been restored and the garden has been planted with shrubs as near as possible according to the original plan, with its fountain basins, statuettes, etc., and the result is that it is easy to conjure up the appearance of a Roman house in its prime. In the center is a round marble table and there are three others under the colonnade; on the pillars are marble busts—Bacchus and a bacchante and being shown in our



illustration. Prof. Mau states that the wall paintings are the most remarkable yet discovered in Pompeii, and we present two of them, those showing the old trades are particularly interesting. The "Punishment of Ixion" is



PLAN OF THE HOUSE OF THE VETTII.

- |                 |                            |
|-----------------|----------------------------|
| A. Atrium.      | B. Colonnade of Peristyle. |
| C. Atrium.      | D. Entrance to Street.     |
| E. Dining-Room. | N. Kitchen.                |
| O. Dining-Room. | Q. Bedroom.                |

one of the most important of antique wall paintings. The owner of the house, "A Vettii Conviva," appears to have been a man of substance, who was engaged in some kind of commercial enterprise, and two great strong boxes were found in the house; the contents were unfortunately looted. The whole house shows what can be done by retaining the objects in the places where they are found. Frescoes look very differently in the galleries of the museum at Naples than they do in the places for which they were intended. The scheme of decoration is so homogeneous that it at once suggests that Vettius was a man of taste. It has been suggested that some of the "Arts and Crafts" series were intended to show how the Vettii family amassed their wealth. The water system of this house was

most elaborate and has already been referred to. A water pipe ran completely around the Peristyle, and branch-pipes served the fountains. The plan of the house, which is given herewith, shows that the Atrium opens in its entire breadth upon the Peristyle. This plan, while giving less publicity, was more picturesque than the ordinary arrangement. Two stairways led up to an upper floor.

Prof. Mau then goes on to describe several other houses and finally the villas. The Romans had two classes of villas, the country seat, or *villa pseudo-urbana* and the farmhouse, *villa rustica*. The former was a city house, adapted to rural conditions, and the latter is what its name implies. Pompeii has an example of the city villa, in that called "Villa of Diomedes," and the country house has an example in the newly excavated farmhouse at Boscoreale, about 2 miles away. The Villa of Diomedes was an extensive establishment, and was peculiar in shape. There were a number of persons killed in the villa, traces of 20 bodies being found in the cellar alone.

Now leaving the buildings, Prof. Mau takes up the fascinating subjects of furniture, trades and occupations, inns, tombs, architecture, painting and sculpture. To many they will prove the most interesting section of the book. Only a few of the salient points of the various chapters can be even mentioned.

Much less furniture has been found at Pompeii than has ordinarily been supposed. For example, in not a single sleeping room has a bed been preserved, and in only one case are the remains of a dining couch sufficient to

make it possible to make a reconstruction. The wooden parts of the furniture have nearly all crumbled away, leaving the mountings. Lamps are found in great variety, and some of what were thought to be lamps are now known to be nursing bottles stamped with the figure of a gladiator, thus symbolizing the hope that the child may develop strength. The lamp standards of bronze are often very fine. Kitchen utensils of bronze and red earthenwares are found in great variety. Many of them are very similar to those in use to-day, including kettles, pails, dippers, ladles, "patty-pans," frying pans, spoons, pastry pans, etc. Water heaters were of elaborate design, and were largely used for heating water to mix with wine. A considerable number of toilet articles have also been found.

The attitude during the early empire toward the higher occupations is most extraordinary, even architecture and engineering being looked upon as menial. The result was, of course, that we have lost many precious memorials. Nearly all the usual occupations were carried on in Pompeii, and our information is derived from inscriptions, paintings, and the remains of actual workshops. A few of the large number of shops contain remains of the articles exposed for sale. Among such shops were bakeries, dye houses, a potter's establishment, and a shoemaker's shop. The miller and baker were one in Pompeii, and remains of a number of mills have been found. The mills were nearly all turned by animals. One of the mills has lately been set up with new woodwork and grinds very well. Smaller mills were turned by slaves. A machine was often used for kneading; there are prototypes of these in use to-day. The trade of the fuller was an important one in a wool-wearing community, and the garments were nearly all sent to them to be cleansed. There were two large fulleries in Pompeii. One tannery has been discovered with extensive vats and pits. Wine shops were numerous in Pompeii, and are easily identified; they were at the same time eating houses. We have the "Elephant Inn," and on the same establishment we read, "Inn to let, Triclinium with three couches." Some of the inns had sleeping rooms for guests, and in some of them wagons were admitted. Private entertainment and hospitality seemed to be the rule, so that there was little call for accommodations of the best class.

The tombs of Pompeii, like those of Rome, were placed along the sides of the roads that led from the city gates; only a few have been uncovered.

Pompeian art next engrosses our attention. The most significant of the periods in the architectural history of the city is the tufa period, which corresponds roughly with the II Century B. C. It is the last offshoot of untrammelled Hellenistic art in the field of construction. In the earlier years of the empire the Pompeians, as Roman subjects everywhere, commenced to build temples and colonnades of marble. The style can be studied to better advantage elsewhere. There was then a gradual transition to the more elaborate ornamentation of the Flavian Era. The desire for variety and brilliancy resulted in lower rooms, smaller doorways, etc., to give more space to afford a chance for the display of color. The beauty of contour and of symmetrical proportion found in the Greek architecture gave place within two centuries to the use of brilliant colors in association with forms that were intricate and often grotesque.

The open squares and public buildings of Pompeii were decorated with statues. Besides the five colossal images of the Emperor and members of the Imperial family, place was provided in the Forum for between 70 and

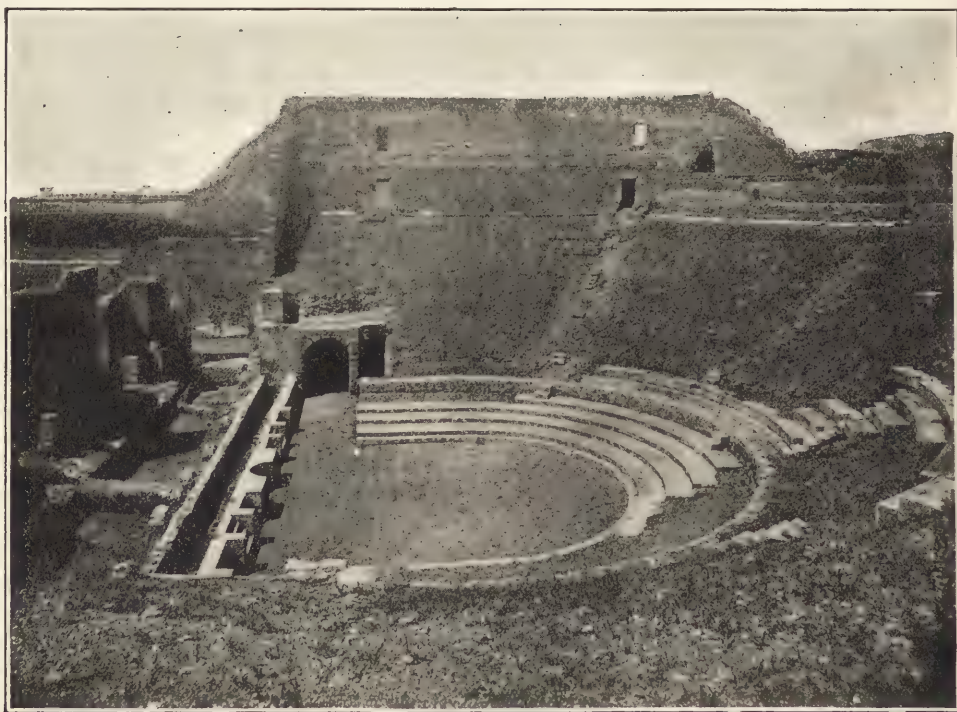


80 life-size statues, and behind each of these was room for a standing figure. In the portico of the Macellum were 25 statues, and the other buildings also contained numerous statues, and there were many scattered around in the streets. A number of portrait statues belonging to sepulchral monuments were found, and sculptured busts were also set up in private houses. Freedmen and even slaves sometimes placed at the rear of the Atrium a herm of the master of the house. The gardens of the Peristyle were profusely adorned with sculpture of all kinds, as will be seen by our illustrations of the house of the Vettii. The fountains were usually elaborately adorned with statues. There are few remains of the statues of the divinities set up for worship in the temples. The museum at Naples is filled with beautiful examples of the bronze caster's art.

The inner walls of the houses and public buildings at Pompeii were plastered and usually decorated with colors. The outer walls were plastered except when built of hewn stone, which was not employed in the latter period in the history of the city. The painting upon the Pompeian walls was frescoed; that is, they were executed in water colors upon the moist stucco of a freshly plastered surface. There were often several days of sand-mortar and there were one or more coats of marble stucco, so that the entire thickness of the plaster varies from 2 to 3 inches. Plaster so thick as this probably remained moist a long time, which aided the painters. Walls which were elaborately decorated sometimes show traces of seam as in mediæval and Renaissance fresco painting. When the decorative design included pictures, usually the divisions and borders and other decorative elements were finished rapidly while the surface was moist. Then a square or round hole was cut where a picture was to be inserted and filled with fresh stucco, on which the picture was painted. Some of the pictures were painted in distemper in the last years of the city. The artistic value of Pompeii's paintings varies from the routine work of the indifferent decorators to the splendid examples shown in our illustrations. Prof. Mau deals with the various styles of painting at considerable length and gives many interesting examples. The hanging of pictures upon the walls seems not to have been in vogue at Pompeii during the period to which the remains belong. The number of paintings is relatively large, and in the catalogue by Helbig, published in 1866, there are more than 2,000 entries, and in the period from 1874 to 1879, 800 more are recorded. Probably the whole number of Pompeian paintings still in existence, or known from description, is 3,500, but in all its wealth of examples it is not possible to find any evidence of progressive development, either in composition or in technique. Prof. Mau has two chapters relating to inscriptions in Pompeii, and the last chapter is devoted to the significance of Pompeian culture. It was a small town which never rose to the dignity even of a provincial capital. It was a seaport, through which marine traffic kept the inhabitants in touch with other cities, especially those of the East, from which fashions of art, religion and life traveled easily westward. The political institutions of Pompeii were those shared in common with the Samnite and Oscan cities, and later those imposed upon them by the forceful and leveling administration of Rome. The literature which they read consisted of the writings of Greeks and Romans, and their art was a reproduction of the designs produced elsewhere, and the appliances of every-day life were not rare and costly objects such as those seen in the wealthy homes of Rome and Alexan-

dria, but those of the commoner sort were used. If any one of fifty cities might have been overwhelmed in the place of Pompeii, the results, as far as our knowledge of ancient culture is concerned, would have been equally known. Pompeii is, however, of representative rather than exceptional character, but there is no other source outside the pages of classical literature which helps us to understand the ancient man.

In conclusion, the writer of this review wishes to again emphasize the value of Prof. Mau's book to the general reader and the student of archæology. It could be made more abstruse, but had this been done a large part of this value would have been done away with. It is estimated that there are 20,000 visitors to Pompeii each year, and there is no better preparation for this visit than a thorough perusal of Prof. Mau's book. The translation is a most excellent one. A careful reading of the book does not reveal a single misprint, which is remarkable, and the only criticism which can be made upon it is that the map of Pompeii is entirely inadequate, and is inferior to that published in Dyer's "Pompeii." The writer of this review has spent some time in Pompeii and regrets that he had not at his elbow the scholarly and readable book of Prof. Mau, which Prof. Kelsey translated.



VIEW OF LARGE THEATRE

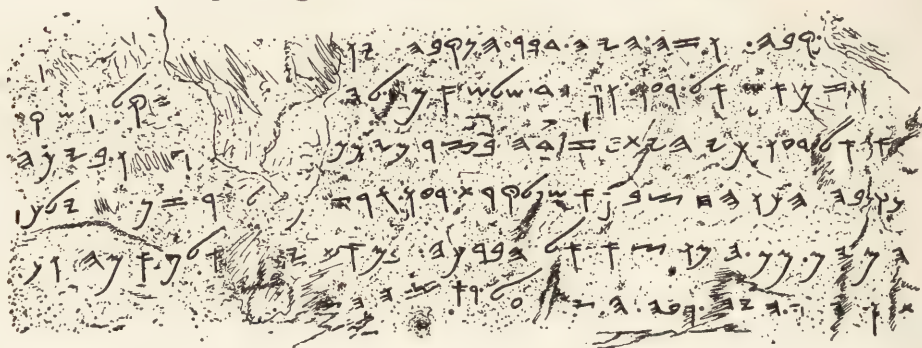


## THE SILOAM INSCRIPTION

IN June, 1880, an important discovery was accidentally made at the Pool of Siloam on the southern side of Jerusalem. One of the pupils of Mr. Schick, a German architect long settled in Jerusalem, was playing here with some other lads, and while wading up a channel cut in the rock which leads into the pool, slipped and fell into the water. On rising to the surface he noticed what looked like letters on the rocky wall of the channel. He told Mr. Schick of what he had seen, and the latter accordingly visited the spot as soon as possible. The channel in question is an ancient conduit which conveys the water of the Virgin's Pool on the eastern side of the city to the so-called Pool of Siloam. It is cut through the rock, and so forms a subterranean passage through the southern spur of the hill on which the mosque of Omar stands. The Pool of Siloam lies on the eastern side of the ancient Valley of Tyropeon, a considerable depth below the summit of Temple Hill. The passage connecting the two pools has been explored by Robinson, Tobler, Col. Warren, Col. Conder, and others. According to Col. Warren, its length is 1,708 feet, though the distance from the one pool to the other in a direct line is 1,104 feet. The passage is not, therefore straight. It was excavated from both ends, the workmen meeting in the middle. The inscription discovered by Mr. Schick is in a niche smoothed down, at the lower end of the conduit, and about 19 feet from the place where it opens into the Pool of Siloam. The conduit here is from 20 inches to 2 feet in breadth, and the niche in which it is engraved is 27 inches long by 26 wide, the niche itself being cut in the rock wall of the channel in the form of a square table, to a depth of an inch and a half, and made smooth to receive the inscription. It is on the right-hand side of the conduit as one enters it from the pool, and consequently on the wall of the tunnel. The upper part of the tablet or niche has been left plain, though a graffito has been scratched across it, which is probably of late date. The lower part alone is occupied with the inscription, which consists of six lines, and an ornamental finish has been added below the middle of the last line in the shape of two triangles, which rest upon their apices, with a similarly inverted angle between them. On the left side of the tablet the rock is unfortunately fractured, resulting in the loss of several characters in the first four lines. According to the Rev. T. W. Biltz's measurements, the upright lines of the characters in the first line are about half an inch in length, those in the second line about three-eighths of an inch, while in the remaining lines they average six eighths of an inch. In the wall immediately opposite the tablet a triangular niche has been cut. Mr. Schick suggests that it was intended to hold the lamp of the workman employed in engraving the inscription. At the time the inscription was found the greater part of it was below the surface of the water, which flows from the Pool of the Virgin into the Pool of Siloam. This will explain why it was not seen by former explorers of the conduit. The passage of the water had filled the characters with a deposit of lime, which made it difficult to read them, and in the last line the letters were almost entirely worn away

by the friction of the water. Before the inscription could be copied it was necessary that the level of the water should be lowered. This was done at the expense of the Palestine Exploration Fund. The inscription was stolen in 1891, and recovered through the exertions of the British Foreign Office. It was found in the possession of a Greek, who stated that he had bought it for 35 Napoleons from a Fellah, whose name he could not remember. Unfortunately, the stone bearing the inscription was broken in its removal. The squeeze from which the photograph was made and herewith reproduced was taken by Col. Condor and Lieut. Mantle before the removal of the stone:

[2 Kings xx, 20 and 2 Chron. xxxii, 30.]



THE SILOAM INSCRIPTION AND TRANSLATION.

- First line. "(Behold) the excavation! Now this had been the history of the excavation. While the workmen were still lifting up
- Second line. "the axe, each towards his neighbor, and while three cubits still remained to (cut through), (each heard) the voice of the other who called
- Third line. "to his neighbor since there was an excess in the rock on the right hand and on (the left). And on the day of the
- Fourth line. "excavation the workmen struck, each to meet his neighbor, axe against axe, and there flowed
- Fifth line. "the waters from the spring to the pool for a thousand two hundred cubits, and.....
- Sixth line. "of a cubit was the height of the rock over the heads of the workmen."







MODERN CITY AND GULF OF CORINTH.

[From photograph by Mr. Frederick Bennett Wright.]



TEMPLE OF APOLLO AND AKROCORINTH.



# RECORDS <sup>OF</sup> THE PAST

FEBRUARY, 1902

VOL. I



PART II

## ANCIENT CORINTH UNCOVERED

BY ARTHUR STODDARD COOLEY, PH.D.\*

### PART I

**C**ORINTH!—What thoughts the name arouses in many minds! The historian thinks of that proud and wicked city set at the meeting of the ways on the isthmus which joined Pelops's island to the mainland of Greece; in early ages a Phœnician trading post, and later the mother-city of many colonies and the chief commercial town in Hellas. To the archæologist and the architect it suggests Kallimachos and the Corinthian column, which some say he invented. The theologian, and indeed every Christian, knows Corinth as the place where Paul the Apostle labored for a year and six months, supporting himself by tent-making, while by his preaching and argument he convinced both Jews and Greeks and gathered together that church to which he wrote the immortal epistles. Even the house-wife should know the word Corinth, for does she not make cakes and puddings with *currants*, and what are currants but "Corinthian berries," those small seedless grapes, which grow to-day in the rich plain between the site of Corinth and the gulf which also bears its name.

The history of Corinth, a city less prominent indeed than Athens or her great rival, Sparta,—does not now especially concern us. A few facts and dates, however, should be borne in mind. In 146 B. C., when the power of Rome had crushed the Achaian league, Corinth, its head felt the full force of the conqueror's wrath. Mummius thoroughly destroyed the city and sent off shiploads of statuary, paintings and art treasures of other kinds to Rome.

Just 100 years later the great Julius Caesar refounded the city as a Roman colony under the name *Colonia Julia Corinthus*. Another century passed, and to this city came a greater than Caesar in his influence on the

\*Dr. Cooley was a member of the American School of Classical Studies at Athens for two years (1897-1899), and surveyor at the Corinth excavations during that time. The description of the work in 1898 and 1899 is from his personal experience, and most of the illustrations are from photographs taken by him.

world, Paul the Jew. About 100 years later a traveler, Pausanias by name, the ancient Bædeker, visited Corinth and in his guide-book we find a fairly full description of the principal objects of interest which he saw,—market-place, streets, temples, statues, theatre, fountains, etc. And now, seventeen and a half centuries after his visit, through the labors of the American School of Classical Studies at Athens, we are permitted to follow him in some measure and to behold the remains of the Greco-Roman Corinth which he described.

How came the American School to be at work on the site of Corinth? Briefly, the answer is this. Like the other archæological schools and societies at Athens—Greek, French, German, British and Austrian, to which has been recently added the Russian,—our own school has among its activities the excavation of ancient remains and has done creditable work at Eretria, Sikyon, the Argive Heraion and other places. Many of the readers of the RECORDS OF THE PAST will recall the effort made a few years ago to raise the necessary funds for the purchase of the site of Delphi, that our school might uncover the place of Apollo's oracle, the modern village of Kastri having been removed. For some reason the French School secured the privilege before ours and several other sites were then offered us for choice, among them Corinth, which was selected by the Director, Professor Rufus B. Richardson after an inspection of the site in 1895 with his colleague at the School, Professor, now President, Benj. Ide Wheeler. Since the refounding of Corinth by Cæsar there has been a continuous settlement there. Even the terrible earthquake of 1858 which well-nigh destroyed the town hardly caused a break in its existence, for squatters soon occupied the half-ruined houses deserted by their former inhabitants, who built New Corinth on the shore about four miles away and consecrated their cathedral to St. Paul, who was thought by some to have sent the disaster as a punishment for the religious indifference of the people. The present village called Old Corinth may have perhaps 800 inhabitants.

This earthquake was a blessing to the American School, for it left large tracts unencumbered by buildings and thus reduced the expense for purchase of land where the excavations are being conducted. Here it may be stated that the usual practice is for the Greek Government to expropriate lands designated by the School and then to pay one-fourth the value while the School pays the other three-fourths.

Corinth was also almost untouched by the excavator. Dr. Dörpfeld of the German Institute had made a few diggings to ascertain the size and plan of the ancient temple whose seven massive Doric columns with their architrave are so familiar in pictures. Mr. Skias, one of the Greek ephors of antiquities, had dug in a few spots in the vain attempt to locate the ancient Agora or market-place. But these were about all the operations of the sort at Corinth before the American School took possession of the field in 1896.

The special attraction of Corinth, however, was in the rare opportunity of uncovering an ancient city on Greek soil. That the old city had been pretty nearly obliterated by Mummius, history had taught us and the testimony of ancient writers has been confirmed by the finds. But some remains of it were seen by Pausanias three centuries later. And despite the changes which have taken place at Corinth in the centuries since that time under northern barbarians, Franks, Venetians, and Turks it was thought





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Fr



Modern roads, buildings, etc. are designated and named in black. Ancient buildings, roads, walls, etc. are designated and named in red.

Excavations left open in 1900 are indicated by double lines of black and red, the black denoting the outer edge of the trenches on the present level of the soil.

Trenches filled up are indicated by a single red line defining their limits when open.

Conjectural lines of ancient walls, roads, etc. are indicated by dotted red lines.



PART OF  
**OLD CORINTH**  
 SHOWING THE  
 EXCAVATIONS OF THE AMERICAN SCHOOL.  
 BY  
 ARTHUR S. COOLEY  
 from original surveys  
 1901.







there must be considerable left of the Roman city built upon and out of the ruins of its Greek predecessor.

There was little above the surface, however, to guide the investigator. To be sure a good part of the city wall could be traced along the edge of the lower of the two plateaus on which the city was built. The monolithic columns of the old Doric temple on a hill south-west of the present village square have been referred to. North of this same square at a little distance were to be seen some large masses of concrete and Roman brick-work, possibly ruins of a bath. About a mile east of the village was a rude amphitheatre cut in the rock, probably the place where gladiatorial shows were held. These with another fragment of Roman brick-work and a few columns protruding from the earth on the lower plateau, comprised about all there was above ground to indicate ancient remains.

In this uncertainty, the prime object was to find the Agora, the centre of the city's life and the starting-point of the personally-conducted excursions of Pausanias, or failing in that, some of the objects he describes.

The first season of 1896, about twenty trial trenches or groups of trenches were dug in various localities. In its subsequent results the trench numbered III was the most important. It was dug in a little-used road east of the columns of the then nameless temple, down into the valley at the foot of the hill where these stand and across it to the main street of the village running south from the square past the church of the All Holy Virgin [Panagia, see map]. At its lowest point a magnificent paved street was found, over 46 feet in width, with side-walks and gutters, but with no marks of wheels, hence probably only for foot passengers. This street ran almost exactly north and south and was followed a short distance to the south, while traces of it appeared in two holes in the same line to the north. Between the temple hill and the street were several massive walls parallel to the latter, one of which could be traced some distance south by the configuration of the ground.

The Director guessed correctly that this paved street was either part of the old Agora, or led to it where the valley broadened out into the upper plateau to the south and so determined to follow this lead the next season.

Trench III was continued to the north-east in trenches IV and V dug in a street more used than that where trench III was made and so at the close of the season they were filled up again after thorough exploration and mapping, as not containing enough of importance to warrant purchasing the land. However, here were found a Roman street, houses and graves.

Trench VII, to the south-east of III, and running up into the hill on the other side of the valley was of more importance than those last named. In it were found an immense column-drum of poros, nearly 7 feet in diameter and  $4\frac{1}{2}$  feet in height, previously discovered by Skias. The old village priest remembered seeing two others of smaller size standing above it, which had been removed for building purposes. The whole may well have formed the base of a colossal statue, possibly in the Agora, or near its eastern gate, where the road from the port of Kenchreai (Cenchreæ) entered. In which connection may be mentioned a piece of a large marble block, suitably cut to stand over a gateway and bearing part of the word COLONIA, found in the same hole with the column-drum. East of the drum, walls of good size and some perhaps of Greek construction, came to light. So this trench has been left open and the ground about it expropriated.

Just south of it was dug trench VIII, beside the main street, disclosing several walls, mostly late and numerous dry wells. This trench is probably within the limits of the Agora and has been left open. In another street running east and west, some distance north of the square, trench XIV gave us massive foundations of a Roman building of Hadrian's time, possibly part of a bath, and another paved street, this time with ruts of chariot wheels. These were but a short distance beneath the surface, and after being mapped were temporarily covered again, so as not to obstruct the road.

Not to mention in detail other trenches which yielded both positive and negative results as to location of important remains and also gave numerous small finds of sculptured fragments, terra-cottas, pieces of vases, coins, etc., we must speak now of the group of trenches numbered XVIII, on the slope from the upper to the lower plateau, some 600 feet north-west of the temple columns. For these revealed the location of the theatre, one of the chief features of every ancient city, and the centre of a group of objects mentioned by Pausanias,—the temples of Athena Chalinitis (the Bridler) and of Jupiter Capitolius and a large gymnasium. It was also on the avenue leading from the Agora toward Sikyon, which lay on a hill about 10 miles to the north-west. Hence this was a most important discovery. The soil covering the theatre was very deep, and as what was found was in a ruinous condition, it did not seem to warrant the great expense necessary to clear the site. However, enough deep trenches were dug to reveal the size and general shape of the theatre and its construction. Its semi-circular audience room must have had at least 38 rows of seats and a radius from the centre of the orchestra of at least 180 feet. Below the *diazoma*, or broad lobby, part way up the slope, there were 11 wedge-like sections divided by stairways and above the *diazoma* twice that number. Some of the stairs, much worn, were found in position, as were a few of the seat-blocks. For this theatre was cheaply constructed, the seats being stone slabs supported at the ends by blocks of stone set regularly. This Greek theatre was destroyed by Mummius, and later over its ruins a Roman theatre was built with the seats arranged on a steeper slope. Although in this first campaign the Agora itself was not discovered, we knew several places where it was *not* to be sought, while the theatre and the paved road of trench III gave probable indications of its situation. And if it should be found where it was conjectured to be, we could then with certainty identify the old temple with that of Apollo which lay on the right hand of the street leading from the Agora toward the theatre. And with these three points made certain, the location and identification of others would be comparatively easy. So the tentative campaign of 1896 ended with success.

About the middle of April, 1897, work was resumed at Corinth, especially on a large area south of trench III, about an acre of land being bought directly from the owner in order to save time. About 80 men and 20 carts were employed. But the war between Greece and Turkey made it seem advisable to close the excavations after about 9 days' work.

The campaign of 1898 excelled that of 1896 in the importance of its results, for the Agora was all but reached and its site made sure by the discovery of the fountain of Peirene, the story of which will be told more fully in my second article. We were now able to call the hitherto nameless temple by its true title, that of Apollo, an important sanctuary at the end of the VII century B. C., with which date the archaic style of its Doric





GREAT COLUMN DRUM TRENCH VII A



THEATRE TRENCH XVIII C



TRENCH XXIII IN 1898



THE SYNAGOGUE STONE



EXCAVATIONS OF 1899



STAIRWAY TO TEMPLE PRECINCT

columns agrees. Trial trenches in fields south of Peirene (numbers XXIII and XXIV) revealed a massive wall, which may well have formed the southern boundary of the market-place.

The first statue also came to light and two others followed of the same kind, draped male figures probably of Roman times, over life-size and all headless. At Peirene a headless "Muse" and a nude female torso of excellent work were found lying together. Fragments of inscriptions, one in the queer old Corinthian alphabet, some in Greek, some in Latin; a few reliefs, including a hideous "angel," from some Christian grave, perhaps; terra-cotta lion-head spouts and cornice ornaments with paint still upon them; terra-cotta plaques with heads; great quantities of painted vase fragments and a large jar of the "geometric" style found at a considerable depth,—these were among the lesser finds.

This year's work was greatly facilitated and more economically done by the little excavation track and cars rented from the French at Delphi. With these the large area south of trench III was cleared to a considerable depth, revealing many walls, some dating back to the old Greek city and bringing to light the apparent beginning of the paved street discovered in 1896, from which a long flight of low marble stairs led upward to what was felt must be the Agora. The massive wall west of this street, discovered in the trench and indicated underground by a ridge on the surface, was found to be a supporting wall for a terrace half way up the hill to the temple precinct and at the same time the rear wall of a series of chambers opening toward the street, probably a row of shops on this avenue. From this terrace a flight of steps led up to the temple precinct and these were cleared of earth.

It was in this region that a find was made of special interest to the Christian world. We read in the 18 chapter of Acts that while at Corinth, Paul "reasoned in the synagogue every sabbath and persuaded Jews and Greeks." [v. 4.] This synagogue is mentioned several times in the following verses. Just where it was we do not yet know, but near the "shops" was found a block of marble, whose cutting indicated that it had formed the lintel of a door and on it, rudely chiseled, were parts of two words "Synagogue of-the-Hebrews." When we consider the fact that in the following year part of a Hebrew inscription was found not far away, it would not be surprising if this synagogue were in the neighborhood and perhaps we may later identify it with some building. None of these chambers is larger than 12 by 20 feet, and any of them would seem rather small to be the chief meeting-place of the Jews in Corinth. Moreover, we know that the synagogue was contiguous to a private house [v. 7] and so could hardly have been just outside the market-place, on this grand avenue, the "straight road to Lechaion," which we know was bordered with public buildings and statues.

Before reaching the level of these ancient remains, a great quantity of earth had to be removed, as may be seen in the illustration on page 37, where the marturas or column of earth "testifies" the depth of excavation below the surface. And here it will be appropriate to describe the methods used in excavation and the life and routine of those who superintend the work.

The Director of the School has general charge and is present most of the time. With him are three or four members of the School, who volunteer





EXCAVATION TRACK AND CAR



TEMPLE OF APOLLO FROM THE EAST



SITE OF THE HERMES GROUP



FOUNTAIN OF PEIRENE



EXCAVATING AT CORINTH



RUINS OF ROMAN VILLA CORINTH

their services as assistants in directing the men, photographing, surveying, caring for the finds, etc. These occupy a large two-story house on the outskirts of the village and near the excavations, the owners moving out temporarily into one of the smaller buildings around the courtyard attached to the house. From this courtyard one ascends a flight of stone stairs to a large square balcony, from which a door opens into a spacious, well-lighted room in the second story. The long dining-table fills the centre of the room. On one side are two cot-beds, for the Director and one of the members of the School. Across the room is a fireplace, on the mantel-piece above it, as well as on the broad window-ledges may be seen various small finds from the trenches. Tables with books, lamps and a few "comforts of home" are at one end of the room, at the other possibly one or two bicycles, cameras, the surveying instrument, bags, etc., and near the door in a second room, a washstand. This second room is used as a sleeping apartment for the other members of the School on duty at Corinth.

Below, in the first story, are likewise two rooms, one for the storage of tools, the second and larger occupied by the primitive cuisine and its manager, the cook, who is assisted by a boy of all work, including in his duties that of house-maid and table-waiter.

Thus the School members of the force live a semi-camp life for about two months in the spring and it is a busy life too. For, except on Sundays and holidays, work begins at sunrise and continues till sunset, with half an hour for breakfast at eight and a recess at noon, which grows longer and longer with the lengthening days and the advancing season, till by the latter part of May, it lasts from 12 to 3 o'clock, giving time for the customary siesta. It is hard work for between 10 and 11 hours a day, even if one does not labor with his hands, but only stands on the bank and bosses a gang of men below.

A most important personage yet to be mentioned is the foreman, a German-Pole named Frederick Lenz, who has immediate control of the men and acts also as major-domo at the house. The men respect and like him and he has now become as one of them by marrying a Greek and settling down at New Corinth. It is his whistle that calls the men to their work and blows the welcome release at noon and night. Often he has one or more assistants. The Government is represented by an *ephor*, who watches the work and reports it to his chief at Athens.

The workmen are mostly from the village and the neighborhood and give good service, especially when one considers that their wages are from 25 to 45 cents a day, but few receiving over forty. It is interesting to see them on pay-day afternoon, when the work ceases early. They gather in a picturesque group in the courtyard of the School's house, while the Director, members of the School and the foreman occupy the square veranda at the head of the stone stairs. As the foreman calls each one by name, in alphabetical order, they come up the stairs, saluting and saying in good old Greek, "Present!"—and then receive their envelopes of drachmas and lepta.

We may distinguish certain classes among them, not only in occupation but also in respect of pay. First, there are the *vagonnières*, who take the cars down to the dump, regulating their speed by hand-brakes; then the ordinary workmen who dig and who spread the earth at the dump; third, boys who drive tip-carts and car horses and tend the switch; while a



miscellaneous class would include the machinist, who keeps the cars in order, the messenger, who carries mail to and from New Corinth, and does other errands, the mender of baskets, the water-carriers who fill small barrels at the fountain in the square and thus supply the men with water, the surveyor's assistant, the cook and the house-boy. Then there is the "stone gang," who remove large blocks that are in the way, hoisting them up by means of the "tripod" and piling them in vacant spots or carrying them off on a little flat car.

The diggers, again, are of four kinds. One set loosen the earth with picks like ours, a second set with large hoes load the loose earth into soft baskets called *zimbilia*, holding about half a bushel each. Other men called "helpers" raise these baskets to the shoulders of a fourth set, who carry them to the cars or carts, and bring them back to be refilled. As each of these men has two baskets, one is being filled while he carries the other and so, as far as possible, a continuous line is kept going to and from the cars. Often one gang will race another in filling cars and thus the winners will secure a little rest while waiting for their empty train to come up.

The cars, twelve in all, were rented, as stated above, from the French, who used them at Delphi, together with a lot of track (gauge 50 centimetres or about 20 inches), curves and switches. They are of iron, with a capacity of half a cubic metre. The track is so laid that they run down to the dump, in some distant field, by gravity, and when emptied are drawn up in trains of three by horses. Usually six are being loaded, while the other six are at the dump, so as to start down as soon as the empty ones arrive to take their places.

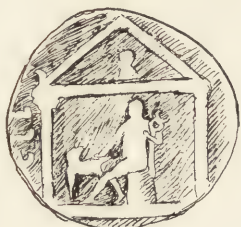
As many as 450 car-loads have been removed in a single day with 100 men or so at work, or at the rate of about 16 cents a cubic metre. Tip-carts are used in places where no track is at hand, but are much less economical than the cars. The number of men is determined by the demands of the work and the amount of the funds, these being largely private contributions, though the Archæological Institute appropriates a sum yearly for the excavations. Mrs. Hearst, of California, and the Hon. John Hay are among the large givers, but much has come in the way of small sums from friends of the enterprise. These small gifts help greatly, for a dollar will nearly pay the wages of three men for a day, and the 6 cubic metres of soil it will excavate may contain some statue or other valuable find. About \$3,000 should be provided for each year's campaign, and this sum should easily be raised, when the importance of the work is considered.

Our knowledge of the past is greatly increased by excavations. To say nothing of the archæologist, the historian is interested in inscriptions and coins, the architect in buildings and methods of construction revealed, the artist in finds of sculpture. Not only have the Corinth excavations given all these, but they have increased our knowledge of the city's topography and have shown us more about ancient fountains and waterworks than any other place in Greece. It is these fountains which will especially occupy our attention after a brief review of the campaigns since 1898.

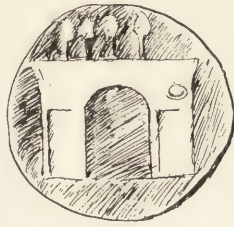
The season of 1899 began on March 27 and closed about the last of May. The work at Peirene was completed. The site of the Apollo temple was cleared to the bed-rock, revealing how the foundation stones for cella walls and columns were fitted into the rock and giving us four more of the monolithic columns, somewhat damaged and lying prostrate opposite the

places where they once stood. Excavations under the eastern slope of the temple hill revealed some curious caves and rock-cuttings, whose purpose is as yet not clear. A mass of rock with three chambers, lying about 260 feet west of the temple, was identified with the fountain of Glauke.

The chambers or "shops" west of the paved street in the main area were further cleared and several more added to the row toward trench III. On the opposite side of the street we enlarged our borders considerably, finding many walls, part of a pavement of grayish stone edged with white marble gutters, and the foundations of a little Greek temple, whose west end had appeared in 1898. According to the rule, this temple faced the rising sun and so backed on the street. It consisted of a cella,  $16\frac{1}{2}$  by 13 feet inside (where stood the image, if there was one), and a small front porch or pronaos; hence we might well restore it as a temple *in antis*. All above the foundations is gone and we may conclude that the temple was destroyed by Mummius, for measurements show that the eastern sidewalk of the paved street partially covered the west end of the foundations.



CXL



XCVII



XCVIII

ANCIENT GREEK COINS.

Here must have been where Pausanias saw a large group in bronze of a seated Hermes with the ram, the next object described after Peirene. For we have a picture of this group on a Corinthian coin of imperial times [Gardner, *Types of Greek Coins*, plate XV, No. 24], where it is protected by a sort of canopy or baldachin with a gable in front, supported at the corners by columns. Now here on the foundations of this little temple are four bases, each of three flat stones diminishing in size, the two bases next the street connected by a stone beam or sill. These stand in just the right places to support four columns of a canopy, which might contain a statue some 12 feet high and which would stand close to the sidewalk of the street and its location about 60 feet north of the entrance to Peirene, well fits the words of the description in Pausanias.

In this part of the excavations were found two more statues like those dug out here the year before, two colossal female figures without heads, perhaps goddesses, the lower part of another huge statue in marble, some god perhaps, in long robe and with an animal by his side, as the paws found on the base showed and other fragments of sculpture, several inscriptions, and a number more "Geometric" vases.

The stairway at the south of the paved street was further cleared and followed to its end. It consisted of 38 wide steps of marble blocks largely taken from buildings, mostly white, but a few pieces of a bluish color. The steps themselves sloped and had an average rise of  $3\frac{3}{4}$  inches, or 12 feet in all, with a grade of one in six. It seems to have been built in Byzantine times (five or six centuries after Christ), when the level of the market-place had





GENERAL VIEW OF EXCAVATIONS 1898.



GENERAL VIEW OF EXCAVATIONS 1899.



RESTORATION OF STATUE

[Drawn from photographs by Mr. Harry W. Stoddard.]

risen several feet higher than the pavement of the street, which very likely lies below it. Our conjecture that it led to the Agora was correct, for at the top, before we expected, we found the massive remains of the Byzantine Propylæa or Grand Gateway and below them the lower courses of the Roman Propylæa. This we know from its representation on coins [*Journal of Hellenic Studies*, 1885, pl. LII, Nos. XCVII to C] and Pausanias's description was a triumphal arch in shape, with a high and comparatively narrow passage between massive piers. On top were two gilded chariots, one containing Helios, the sun-god, and one the immortal Phæthon.

Just beyond this was the Agora, a great square with a colossal statue of Athena in the centre, and other statues in various parts, temples on the sides and a fountain near two of them.

That we were at last in the long-sought market-place there was no doubt. A confirmation, if confirmation were needed, was found in the fact that within the Propylæa we came upon very few walls, though the excavation was carried south some 140 feet. Here, too, one could see clearly marked in the bank the different strata, showing the level of the surface at various periods.

At last the goal was reached and we could now proceed with assurance, following Pausanias along the three principal streets of the city, northward toward the port of Lechaion, southward up Akrocorinth, which street had indeed been traced in two of the trenches of 1896 (Nos. IX and XII), and westward past Glauke and the theatre toward Sikyon.

[To be concluded in Part III, March.]



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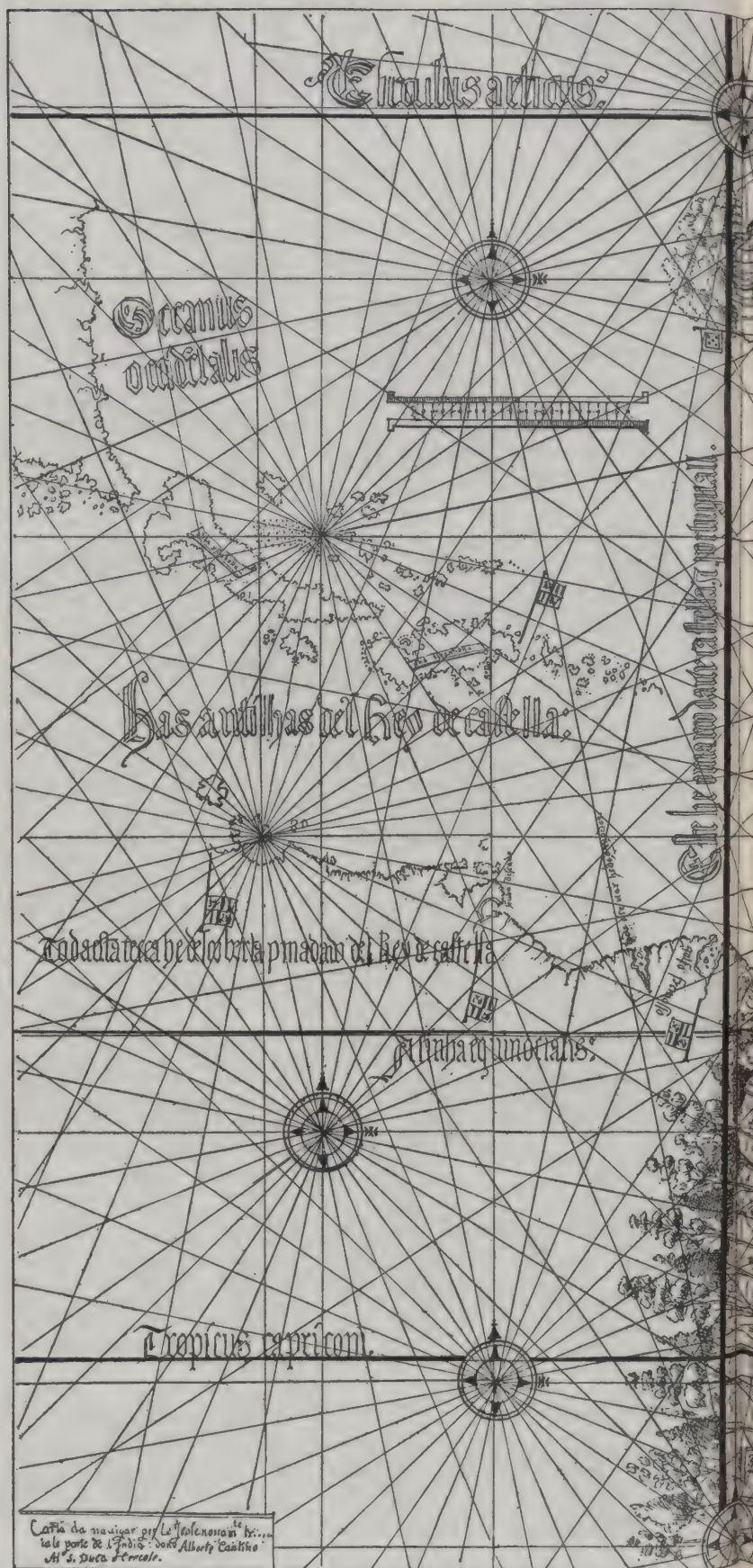
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PORTUGUESE MAP, 1502





## THE DISCOVERY OF YUCATAN BY THE PORTUGUESE IN 1493 AN ANCIENT CHART

BY DR. PHILIP J. J. VALENTINE

THE first chart that was ever drawn of the contours of our great Continent must undoubtedly be viewed in the light of being both a remarkable geographical and historical document. By the study of the chart, it is learned that the outlines of America were not discovered, as hitherto was thought, by the eyes and traced by the hands of the Spanish, but by the pilots of some caravels sent out by the King of Portugal, in 1493, with orders to pursue the same track, as but a few months before had been sailed over by Christopher Columbus, in his first voyage to the oceanic West.

Of the existence of so precious a document nothing was known until Mr. Henry Harrisse, who has for years been working with great zeal in the department of bibliography of the Columbian epoch, has recently been fortunate enough to hit upon this treasure. He found it packed away and dormant on the shelves of the library of the Este family in Modena. An exact fac-simile copy of it was executed and appeared joined to Mr. Harrisse's work on the *Corte-Reales*. Concerning the original itself, we learn that the chart was made at Lisbon, in the year 1502, and at the request of the Duke Hercole di Terrara, who wished to possess a complete representation of all discoveries made in the Atlantic Ocean down to that year. A certain Alberto Cantino had served as the intermediary.

We are sorry that of this grand map we cannot give more than the ninth of its size, and this only in black, because the original as it lies before us, is executed in beautiful colors. A grand and noble production, indeed! It invited little Portugal's fortunate monarch to embrace with one single glance, the boundaries of the great kingdom that he and his forefathers had silently conquered for themselves in the vast expanse of the Atlantic Ocean during the short space of about 60 years. Lusitania's blue banner, with its five black balls, is perceived floating on the shores of the Eastern, the Northern and the new Western Continent. It is planted on the western coast of Africa, as well as on that of Greenland, Labrador and Brazil, and it was not without deep significance that the Cape Verde Islands had been chosen as the central oceanic point around which King Emanuel's new world moved.

We must refrain from entering upon any further description of all the varied and many features of this map. In the interest of our special subject, the reader is now invited to turn his eyes toward the west of the map. Here, and above a large island inscribed *Ylha Issabella*, in which we recognize the form of the island of *Cuba*, we find in the midst a cluster of small islands a point with lines radiating in all directions of the mariner's compass. This point, no doubt, must be located somewhere about the Bahama Islands, perhaps is *Andros*, as the most accessible and secure harbour of the group. Farther west, and in the immediate neighborhood of Cuba, the

picture of a large continent is drawn, emerging from the ocean, dotted with islands, and the coast-line inscribed with a multitude of names in the Portuguese language. But what name the land itself was given—nowhere appears. Mr. Harrisse supposes the land to be a representation of the shores of the Mexican Gulf, and in continuation of those of the United States of America, and probably those of the peninsula of Florida.

We have reached the result that the picture must represent the shores of the peninsula of Yucatan. For reasons of his own, as later is to be developed, the draftsman felt compelled to straighten out into a single line the body of three-sided Yucatan. Of the 22 names inscribed on the coast, 18 will be shown to be what are called sailor-names. They describe the physical features of the places met with at the survey of the coast and these features are only peculiar to Yucatan. Two other names refer to persons, dignitaries of the Portuguese crown. The two remaining are names given in the language of the natives and are still found to-day in the same locality where the Portuguese surveyors inscribed them upon their chart. The special motives for so extraordinary a proceeding will be gathered from the contemporary history of the two kingdoms of Portugal and Spain, and the evidence for the fact that the crown of Portugal really dispatched ships to the West Indies. That this happened immediately after Columbus's return from his first voyage, will be made clear from a correspondence between King Ferdinand and Columbus. Such is, in brief, the summary of the points now to be discussed.

It will be best to begin with the narration of how storm-tossed Columbus was compelled to seek refuge in the port of Lisbon and with what then resulted after a severe cross-examination he had to endure at an audience with King Joam II.

Whoever finds this package and delivers it unopened to the King of Castile, will receive the sum of 1,000 ducats.

Despairing of ever bringing his broken vessel through the raging storm and waves, a ship captain rolled a cask overboard, on February 14, 1493, far off from the Azore Islands. The cask contained, in waxed cloth, a well-fastened package with the above inscription, and this package a report of the discovery of great islands in the far west of the ocean.

A second cask with like contents was fastened on the bowsprit of the ship as a further measure of precaution.

Whither the waves carried that first document of the discovery of a New World, no one knows. But only three weeks later, we see the rescued man, Christopher Columbus, run into the Tagus River with a wreck and cast anchor at the *rastelo*, the Custom House of the port of Lisbon [March 4, 1493].

For weeks the storm had raged on the coast of Portugal, and countless wrecks had floated to land. The river was alive with ships that were prevented from running out, and among them, it is related, was King Joam's new-built giant ship, which loomed above the others like a floating fortress. Curious boats swarmed around the *Nina*. When she hoisted the Castilian flag there was no longer any friendly glance of welcome in the eyes of the lookers-on.

Columbus's situation was painful, nay, humiliating. Fleeing from the pressure of his creditors, and perhaps still more from the ridicule of the



learned men, who had condemned his problem laid before the King, he had nearly seven years before gone secretly across the border to find a better hearing from the King of Spain. How he at last succeeded in this; how he was raised to the rank of an Admiral, and was sent out into the ocean with a fleet, and with what fortunate news he turned back towards home—all this is well known to the reader. But that fate should now have driven him to ask for help from the very city, in which his previous record of life was on the lips of every citizen and sailor, and where the multitude could point at him as a traitor and a runaway, must have weighed hard on his conscience.

On the following day a boat with armed harbor police approached his ship. The leader summoned Columbus to come down to him and to take a seat in the boat that he might be registered on shore by the proper authorities. Columbus recognized the voice of the person who spoke to him. It was no other than Bartolomeo Diaz, the discoverer of the southern cape of Africa. Ten years before both of these men had been dreaming of discoveries, and now the dreams of both were fulfilled. But one had been compelled to content himself with the post of watchman in the harbor for his recompense, while the other had been elevated to the rank of Admiral of the Oceanic Fleet of their Catholic Majesties. Columbus answered Bartolomeo curtly and with pride. He, as an Admiral of the King of Castile, had no account to render to any foreigner with or without authority. He would leave his ship only when compelled to do so by force of arms. It was then suggested that, as he was not willing to go, he might send the first officer of the ship in his place. But this request also was refused. Columbus's answer was in a like tone of insulted pride:

Neither he, nor any of his crew would set foot out of the ship. It was not in the habit of the Admirals of Castile to surrender themselves or their men, even at the risk of their blood or life.

This allusion to the sailor's feeling of honor did not fail of its effect. If he were so determined, rejoined Bartolomeo, the matter might rest there. But in that case he could not help asking Columbus to give him personally a sight of his royal patent of Admiral, to which he had appealed. Bartolomeo went on board of the *Nina*, read the document, declared himself satisfied and returned to the large custom-ship to report what had taken place. In accordance with usual ceremonial, the commandant of the port then appeared on Columbus's caravel, and amidst the noise of drums, fifes and trumpets, placed himself in the most polite manner at the disposal of the Admiral for all further services.

Columbus, in this way, escaped great danger. Moreover, he had assured himself of the protection of the authorities, who now became the bearers of a letter which he had addressed to King Joam. In it he begged the Monarch, who was not then sojourning in the capital, but at his county seat of Val de Paraiso, for protection as

A shipwrecked guest and an Admiral of the Spanish crown.

He further wrote that he did not come from Guinea or any other possession of His Portuguese Majesty; that he had reached the far west of India, and was carrying home a cargo of high value, which he feared was not very secure in his place of anchorage. The people on shore and in the ships were regarding him with suspicious looks. He begged his Majesty to allow

him to leave the *rastelo* and to go up the river with his ship to the city, in which his cargo would be less exposed to danger.

This letter of Columbus to King Joam is not in existence. He gives only the abstract of it in his journal. But another one dispatched to King Ferdinand's ration-master, Don Luis de Lantangel, on the same day, March 14, and which contained a summary report of his discovery of the islands, is preserved. This is the same letter that Columbus had written at sea and had fastened to the bowsprit in a cask, when he feared he would lose his ship. He put the letter in a new envelope and slipped into it a paper on which was briefly written:

I have met with heavy weather at sea, but I am now safe here in the harbor of Lisbon.

A laconic postscript, indeed, which must have caused King Ferdinand to feel as uneasy as fill his heart with joy on account of the important discoveries.

On the following days, March 6 and 7, Columbus notes in his journal that almost half Lisbon had come running out to see him, to express their astonishment, their admiration and congratulations upon his success and wonderful return. Others, however, he writes, gave open vent to their angry feelings that King Joam had allowed so fair an enterprise to slip from his grasp. The Lucayan captives were particular objects of curiosity and comment.

On March 8, Don Martin de Noronha, a royal chamberlain, and whose name will be seen later to appear on our chart, made his appearance in the harbor. He was the bearer of an answer in the King's handwriting, by which Columbus was

courteously invited to an audience in Val de Paraiso, and to be his and the nation's guest. The king, moreover, expressed his congratulations upon the Admiral's fortunate arrival in his realm and near his person, and hoped that he would not heave anchor before having seen him.

At this point a somewhat caustic remark as to the sincerity of the King's feelings slips from Columbus's pen:

Doubtful as I feel to the sworn friendship between the two Majesties, I will obey the courteous summons, and mainly with the hope of dispersing King Joam's suspicion that I come from his African possessions.

On the same day he started for the court. They had one night's rest in Sacavem, and on March 9, before noon, they reached Val de Paraiso, where a host of nobles came to meet him and lead him into the presence of the King.

We know the two had often met before. Joam, indeed, had always been a gracious monarch to Columbus. He had made the poor wandering Genoese a subject of his kingdom; had given consent to his marriage with the daughter of one of his vassals; had listened to his projects with an ear more willing and attentive than had any of the members of the learned *Junta*, never positively rejected his proposals, but always kindly asked him to wait a little, for the time had not yet come. When, later, and for reasons above quoted, Columbus had absented himself from Spain, Joam had requested him in words full of forgiveness, and that justices should not interfere with him, because he would remain under his royal protection. This



letter is preserved in full, and can be read in Navarrete's work. But Columbus had not returned, and now, just 5 years later, we see him standing in the presence of his former king as the discoverer of the longed-for Indies, but none the less a shipwrecked mariner asking this king for aid.

His reception on the part of Joam was flattering and obliging. Columbus had taken his cap off on entering the hall, but the King bade him cover his head and be seated by him. All stood in watchful expectation of the turn this audience would take. Providence itself, such was the undisguised feeling of those present, had shown itself by bringing the traitor back and placing him before the tribunal of his temporal judge.

The King asked Columbus to narrate the details and adventures of his voyage. He did as bidden and with this, and not more, the audience would have been at an end. Only when rising the King could not refrain from making the remark that, although he was willing to oblige the King of Castile in all his desires, he nevertheless was of the opinion that the voyage of the Admiral toward the west had been made contrary to the stipulations agreed upon between the two kings a few years ago, and that the newly discovered islands accordingly were his possessions. Somewhat more than straightforward was Columbus's answer:

I have but obeyed orders to sail. I did not touch Guinea nor the fort of Mina and I have faithfully carried out my instructions. It is well, retorted the King, it is not my habit to treat such matters with a third person.

These words were the signal of dismissal.

That night Columbus was the guest of Don Diego de Almeida, the prior of Crato, the King's intimate friend and whose name will be also found commemorated on the map. On Sunday, March 10, after mass, Columbus was again summoned to an audience before Joam. The subject of the conversation on the previous day had been merely confined to the voyage and to personal adventures connected therewith. This day, however, an inquisitory discussion was opened, and those assembled took part in it, making it hard for Columbus. For instance, doubts were cunningly expressed to him of his having been in the Indies at all. It was pointed out to him that starting from Castile, no one would be able to reach the Indies in a voyage of but 33 days. No minutes of this interesting audience are extant, but from the historical reports on record, it is natural to conclude that Columbus's examiners did request him to point out his sailing course, to give an account of the winds and of the currents he had met with, of the degrees of latitude and longitude in his day's reckoning, of the size and mutual position of the islands discovered. These records leave the clear impression that on this occasion Columbus stood before a set of inquisitors who, under the veil of an excited personal curiosity, were but eagerly resolved on obtaining from him the secret of his successful voyage. And there was no reason why he should not yield to the pressure of his inquirers. On the one hand he could prove that he had not trespassed the stipulated line drawn through the ocean, west of which line it was conceded to the Crown of Spain to navigate and discover whatever lands and islands she liked; on the other hand, was he not certain that Spain in the worst case, would with force of arms protect what she had taken possession of? Nor did Columbus fail to exhibit the products he had brought home from the Indian soil. He showed to the assembly the grains of pepper gathered in Cuba, the cinnamon bark from the Bahamas, and as a final proof that he

had indeed been in India, the Lucayan natives were led into the hall. Up to this moment the King is said to have indulged in spicing his doubts and questions with the salt of humor and slight sarcasm. His mood changed at the first glance cast on the West Indians. His countenance grew pale and serious. Then he exclaimed:

No, indeed, these are not my people of the Guinea coast. Their color is black, their hair is woolly. These here have the light complexion of the people of India as they were described to me. Only look, how straight their hair is!

It may have been at this moment that, as we are told, the imprudent remark escaped the lips of the triumphant discoverer:

Certainly had your majesty shown me more confidence and lent an ear to my proposals some years ago, the King of Portugal would now be the Ruler of India. This was too much for the impatient hearers. These words aroused a storm of indignation in the assemblage and, when later divulged, found an echo in the whole nation.

When the audience ended, some courtiers of the Court approached the King with the hint to remove the foul slanderer at once, in one way or another, on his return ride to the harbor. The great secret, they murmured, ought to be buried with the man himself. Such a violent measure, however, met with the most serious disapproval of the King.

There then followed a third short audience, with which Columbus took his farewell of the King. He could not, however, refuse to accept an invitation on the part of the Queen Leonor. There Columbus met her in company with her brother Emanuel and the Marquis Don Torge, both belonging to the household of the Queen. So it seems, that not without wise forethought, care was taken that every prominent personage of the kingdom was given a chance to hear from the lips of the discoverer himself the full story of his discoveries. Witnesses of highest authority had to be gathered and the perfidious infraction of the treaties to be laid before the Cortes, in whose hands the decision as to the final measures rested.

The cavalier Don Martin de Noronha was Columbus's inseparable companion on the way back to the harbor. When they arrived at the *rastelo*, they were overtaken by another cavalier to offer Columbus saddle-horses for his return to Castile. Of course Columbus declined. He would have accepted the offer of a safe ship. But to ride for weeks through dark mountain passes and in escort of cavaliers in the faces of whom he had read his doom, would have been foolhardiness.

Let us pass over the narrative of the grand reception given to the discoverer after his happy arrival in the port of Barcelona on May 4, with the half-rotten *Nina*, and over the correspondence with the Holy See by which King Ferdinand obtained the papal confirmation for further discoveries to be made in the direction of the Western Islands. Our interest for the present only is to learn what King Joam resolved to do and what he achieved immediately after Columbus had left the Tagus River. Vengeance must be taken and war against Spain must be declared; such was the cry of the court and the whole nation. The Cortes were summoned to quickly assemble in Torres Vedras. Upon presentation of the matter, the King said that he did not care at all for his family relationship to the Kings of Castile. It was not a personal affair of his, but one of his vassals and of the whole nation, whose honor he had sworn to protect and who, for long years, had



always considered themselves to be the born rulers of the Atlantic Ocean. Distinct pledges had been given to him by King Ferdinand before the sailing of Columbus's expedition to respect the Bull of 1438, in which Pope Eugene had settled the boundaries. No Spanish vessel was allowed to pass the line of the Canary Islands to the south, and yet, as he ascertained, the Admiral had sailed beyond this line, had found new islands there, and, therefore, so he considered, these new islands belonged to him, the King and his people. He had determined to stand by his right and fight for it.

The challenge found an enthusiastic echo from the mouth of the assembled Grandees. The question only was how to make a war successful. If waged on land, there were grave doubts that Portugal could make head against the powerful monarch beyond the Guadiana river. But why not on sea? It was pointed out that even now there was a fleet lying at anchor at the Island of Madeira ready to start for an expedition along the African coast. Nothing, therefore, was easier than to acquaint the commander, Don Francisco de Almeida, with all the suggestions and facts so deftly gathered from the Castilian Admiral, to order Almeida to run his ships in the same course and, if necessary, to fight out the duel at sea for the possession of India. There was no fear that the contents of sealed orders thus given to an admiral lying with ships far off at the Madeira Islands would leak out either among the public in Portugal and still less in distant Castile. To win time and to entertain King Ferdinand, King Joam had to write his royal neighbor an amicable letter, however, making him acquainted with the temper and feeling of the aggrieved nation. Such were the resolutions taken and given by the Portuguese Cortes.

Notwithstanding the speed with which the messenger, entrusted with King Joam's letter traveled, rumors had preceded him to Castile of certain naval preparations made in Portugal with the object of seizing the islands. Ferdinand, alarmed by these rumors, and in order to learn the truth of them, had hastened to send to Lisbon, even before the messenger appeared at the Court, one of his most trusted councillors, Don Lope de Herrera. He was the bearer of two missives to King Joam. One of these letters had to be handed to Joam, if Herrera on his arrival was convinced that no war-like preparations were going on in Portugal and that no ships had been sent out to the West. The missive contained Ferdinand's thanks for the hospitable reception given to Columbus and an entreaty to avoid the difficulties certain to arise if ships had been sent to take possession of the new territories. The other missive Herrera was bound to present should he observe that Portugal was bent on war. This second letter contained a curt summons to stop preparations; failing which, it would be left to war to decide between the two kingdoms.

It seems that Herrera on reaching Lisbon did not get the impression of armies levied to wage war on land. As for the fleet, which was stationed, not at Lisbon but at Madeira, and of dispatch of vessels, rumors had been afloat, but Herrera was not able to get at the facts which gave rise to the rumors. He therefore resolved to present the first of the missives, and of this fact corroboration is found in a letter written by Ferdinand to Columbus, who then resided in Cordova. The passage that interests us is as follows:

Herrera has just returned. You know we sent him to the King of Portugal on account of *those caravels*, rumors of the dispatch of which to the islands of your

discovery had come to our ears . . . In order to come to an understanding, the King writes that he will send us ambassadors, who have not yet arrived, and he also says, that before their arrival he has not sent, nor will he send, ships to the West. You shall learn of all this in time.

In another letter to Columbus, one month later, the King complained that the long-expected embassy from King Joam had not yet arrived, and in a third letter from Barcelona, August 18, 1493, that the embassy had arrived, but, to his astonishment, had not yet been presented to him. He begins to see clearly what the motives of their long tarrying are and urges Columbus to hurry, to sail, and steal a march upon the Madeira fleet. In a fourth and last letter, September 5, we read as follows:

You will remember our last, in which we told you, that the King of Portugal sent messengers to us to confer on the subject reported to him through Lope de Herrera, which was that we would not allow anybody to sail to those parts which are ours. We had a long conference with those gentlemen on this affair, and it almost seems as if no agreement can be reached. They know plainly what we want, and tell us that they wish to be furnished with *new instructions* from their Sovereign. . . . Make haste and sail as soon as possible. Avoid the Cape of St. Vincent and the whole coast of Portugal, so that nothing of your ships and further course be noticed. And now, as to what you wrote us some months ago about the news you had from Portugal that a caravel had left Madeira to go to the islands and to parts the Portuguese never had gone before, these rumors are now confirmed by facts. The messengers pretended that *he who sailed in that caravel did so without the orders of King Joam, and that the King sent three caravels after him to seize him. Now, what other object can this have than that the three caravels should join the first and all the four together sail in search of those parts and islands which belong to us.* Therefore, we order you to attend to this affair, and with much zeal, and to provide that neither those nor any other caravels may be further sent out with like intentions, and shall be found exploring within the reach of our boundaries, and which are best known to you. . . . Moreover, the same messengers express to us the belief that there may be islands and mainland lying between the Cape of Africa and that line which you wanted to be drawn in the Bull of the Pope. You know more about all this than any other man; and should you be really of the same opinion as they, we shall find means to ask for an alteration of the Bull in this regard.

It is to be regretted that Columbus's side of this correspondence with King Ferdinand is not preserved. However, this correspondence of the King with Columbus alone appears to us sufficient for our purposes. On the ground that a series of names were found written in Portuguese language on a map that represents the oceanic possessions of the crown of Portugal previous to the year 1501, and this along a continental coast west of Spanish Cuba, our suspicions were aroused that this coast-line was to represent the shores of Yucatan. But how the Portuguese could have acquired knowledge of the existence of such a peninsula, one-quarter of a century before the Spaniards did so; how their ships had been able to make a thorough coast survey of Yucatan and their exploration remain a secret during the course of so many years, this fact, of course, was grave enough to render us distrustful of the impression we had received from the chart at first sight. To make sure of it, closer study of the subject was required. Our doubts could be dispelled, could reasons be given why at the epoch given the crown of Portugal could be moved to send ships in that direction. It was jealousy and suspicion that Columbus had trespassed the stipulated



Fig. 2.



line. This was made clear, First, by the report we gave of all the incidents that happened at the audience in Val de Paraiso; Second, by the resolutions which were taken in the assemblage of the Cortes in Torres Vedras; Third, by the slowness with which the diplomatic envoys acted in making their appearance before King Ferdinand—time had to be gained to achieve the exploration—and Fourth, the fact itself that ships already dispatched, had come to light. The envoys had furnished formal confession to the fact that first one and then three more caravels had sailed.

This point in our evidence, which, no doubt, is of great importance, was secured. Let us now ascertain the other point, which is of no less importance, viz., whether or not those caravels had actually succeeded in reaching the peninsula of Yucatan. For this purpose the reader is invited to examine with us the map, and especially Figure 2, which is a fac-simile of the long-stretched coast-line as it appears drawn in the west of the large Portuguese map.

In doing so, one curious circumstance must immediately strike the eye of the observer. All the names on the coast stretching south and north exhibit themselves in a position contrary to what we reasonably should expect. They all stand upside down. This is an obvious anomaly. However, let any speculation of what may be the reason for this anomalous fact be set aside, at least for the present. Let us proceed to read the names. We give the chart a turn of two right angles and read, beginning from the south:

1. *Costa del mar vacano* (oceanic?). 2. *Cabo d. licota* (restored to *encontro*). 3. *Confuse*. 4. *Cabo de latoa ventura* (restored to *buona*, good luck). 5. *Costa alta*. 6. *Lago lunoor*. 7. *Las calvas*. 8. *Rio de los lagartos*. 9. *Cabo Santo*. 10. *Rio de las almadias* (canoes). 11. *Puntor roxa* (red point). 12. *Cabo delgado* (narrow cape). 13. *Rio de Don Diego*. 14. *Cornejo* (?). 15. *Cabo do fim de Abrill* (end of April). When pursuing the names written in direction west, we find: 16. *El golfo baxo* (the shallow gulf). 17. *Cabo lurear*. 18. *Cabo do Mortinho*. 19. *Cabo do lurear* (cape of lucre). 20. *Cabo arlear* (cape to strike sails). 21. *Rio do coryo* (?). 22. *Rio de las palmar*.

As seen, much the greater portion of these names are susceptible of interpretation and found to be derived from impressions and incidents which the navigator received from the configurations of the coast and then noted down. The idiom employed is the Portuguese, though here and there and mainly with the articles, Spanish and Italian forms appear to be intermixed. The hand that drew them is unquestionably another than that which drew those of the remainder of the large oceanic map; letters are larger and thinner. Among these 22 names only two appear which evidently are personal names, viz., *Rio de Don Diego* and *Cabo de Don Martinho*. If we remember that a Don Diego de Almeida was the person in whose palace Columbus, after his first audience, was invited to pass the night, and if, furthermore, when consulting the contemporaneous sources of the history of Portugal, we are informed that this Don Diego was the rich prior of Crato of the Order of St. John, the chief master of the royal hounds, the castellan of Torres Novas, and known to have been King Joam's intimate friend; if we, moreover, remember that a Don Martinho de Noronha (Columbus, after Spanish parlance, writes Martin), was the King's chamberlain, who gave his company to the discoverer on the way from Lisbon to Val de Paraiso and the same way back, and when we read that the names of these two gentle-



men figure among those of the four witnesses who signed King Joam's testament, the high station the two dignitaries occupied in the realm, needs not further to be discussed. We can no longer wonder at finding them mentioned on the chart. In some way or other both were connected with the expedition, and its success afforded an opportunity for erecting to them a flattering memorial. Finally, it must still be mentioned that the commander of the Madeira fleet was Don Francisco de Almeida, the brother of Don Diego.

But what to say about the rest, about the presumption that a coast-line stretching from the tropics as far north as the parallel of Labrador be that of Yucatan. We know of Yucatan as a peninsula, one coast of it distinctly turned to the east, the other at the height of Cape Antonio de Cuba turning to look toward the north and then the third side, the so-called Campedee coast, turning to the south to meet the lagoon of Terminos. We can not possibly consider the problem to be solved and ready for acceptance by the reader on the ground of the few data given, though persuading they may appear, except we should be also able to transfigure this mysterious coast-line into the natural shape of the three-sided peninsula, and then, what would be the last postulate, to evidence the fact that the thus new-born creature bears all the features of the refractory mother.

Fortunately, the draftsman of the chart has left, as we shall see, a hint of what must be done to help him to the understanding of a transfiguration as above alluded to. Our eyes will detect the signs of two arrow-heads affixed to the places where we read the inscription: *Cabo de fim de Abrill*, and the other with the inscription: *Cabo Santo*. But what may he have meant by these signs? This will readily be perceived if we turn the chart so that the short and southern coast-line move to his right hand. In doing so, the long coast stretch is converted into a north coast. Now, let us bend down this line to a right angle, northward, at the place of the arrow-head inscribed Cabo Santo and thus make it a new, a western coast. By this operation the line has been converted into the form of a peninsular body [see Fig. 3] and this body, when set in its presumed natural and geographical position, is now seen looking toward the Cape Antonio of Cuba and takes the semblance of representing the Cape *Catoche* of today. What more has happened? We notice that the inscriptions and letters which formerly were seen standing heads down, stand now in a position such as any cartographer would have given them when having the chart ready for this purpose on his desk. The body of a chart bearing the aspect of the peninsula of Yucatan is now laid before the eyes of the reader. The last proof for its full identification is still to be expected, which is this: to demonstrate that the thus reconstructed chart must exhibit all the characteristics peculiar to the physical features of the peninsula and present themselves in their natural succession.

To facilitate the comparison in view, the modern chart of Yucatan is placed alongside the reconstructed chart [see Fig. 4].

Some allowance, of course, must be made. The ancient map will be found somewhat defective with regard to measurement and relative proportions. It will be noticed that some peculiarities of the coast, and which most excited the pilot's interest, are rendered in a disproportionate dimension, while others not so significant, are treated, as would happen in all first surveys, with less attention.

Beginning in our comparison with the south, we meet on the Portuguese chart a large number of islands grouped near the eastern coast. These islands, no doubt, were intended to represent all those which, on the modern map, are seen stretching from the Island of *Tabaco* (Lover reef), upward to Bacalar, and parallel to the coast now known by the name of *Balize*. Farther up, beneath the *cabo do fim do Abrill*, is a large island painted in violet color and standing drawn at a disproportionate distance from the coast. This can be no other than the famous Island of Cozamel. The marks and shoals near by the cape correspond with those little islands, today comprised under the collective name of *isles de las mujeres*.

As to the bays of the same coast the modern map shows three, all of considerable dimensions, but different in form. The lowest one, that of *Chetumal*, which is a twin bay, and cuts deep into the coast, corresponds with the one on the ancient chart as *golfo baxo*, the deep gulf, its twin nature having been noticed by the sharp eyes of the explorers. The two following bays, *Espirita Santo* and *Ascension*, are also seen on the Portuguese chart, but are left without names. Of the capes on the *golfo baxo*, the one at the entrance bears on our chart the name *Martinho*, the inner one that of *lurear*. In the first we are justified in recognizing the Cape of *Balize*, in the other the *Punta de la piedra*.

The rivers *de las palmas* and *do corno*, in the south are drawn at places, where today we find the mouths of the *Rio Nondo* and the *Monkey river*.

In approaching the *cabo do fim do Abrill*, of which we entertain no doubt that it was intended to represent the actual *Cabo de Catoche*, the coast of the peninsula begins to trend toward the west. That this cape was named by the explorers the cape of the last day of the month of April, is not without significance as regards the scheme of our identification. We remember that the caravels must have left Madeira toward the end of the month of March, 1493. One month must have sufficed to bring them face to face with this western cape. Let us now proceed to the north coast of Yucatan.

Its natural aspect is known to be monotonous to the highest degree. It shows a long stretch of beach, unbroken by any bay or by the sighting of any mountainous elevation of the soil. For the whole distance, from east to west, the front is bordered by the line of an unattractive wall of sand, open only at three places. In the east is the break that forms the bay of *Yucatan*, and not far west of this and connecting with that of *Holkoben*. The third break is that known by the now obstructed *boca de Cilam*. The sea rolls in and out of these *bocas*, and fills or empties the estuaries lying behind this sand wall. Notwithstanding the continuous motion of the tides, these estuaries are of smooth water, and as they run parallel to the beach, they afford safe anchorage and a welcome means of inward navigation to the small craft of the native fisherman. Seen from on board a vessel out at sea, these breaks present the aspect of mouths of rivers, and this impression must have led the Portuguese navigators to give to the two neighboring breaks forming the bay of Yucatan, the collective name of *Rio de Don Diego*, while the break at *Cilam* received the name of *Rio de las Almadias*.

Between these two breaks (or rivers) on the north coast, our ancient chart names only two capes, *Cabo delgado* and *punta rosa*. In reality, they have nothing of the nature of a conspicuous cape. They are rather big natural jetties of sand protruding from the beach, but not without serious danger to the coasting ship or boat.





On our modern maps the western end of this north coast shows no salient cape. It curves smoothly to the south, where at a certain distance the sea has again made an inroad, broad and deep, the entrance point of which today is called *la punta desconocida*, because no visible point or cape can be recognized at this bending of the coast to a direction south. Anyhow, the explorers would call it the *Cabo Santo*, and the entrance of the estuary the river of *lagartos* or alligators.

Entirely in conformity with the natural condition of this western coast, we now find on the ancient chart, south of the estuary of lagartos, an inroad of the sea which is inscribed with the name *las aabras*, or the openings, and right opposite to them the sign of a reef drawn. This is the only reef appearing on this western coast, called today the island of *Iaina*, inhabited and full of objects of archæological interest, as was shown by Charnay, who gave an account of them in the periodical *Le Tour du Monde* [May 7, 1887].

Farther down another inroad of the sea was marked by the pilots with the name *lago luncor*; but what most attracted their attention was that in this neighborhood there begins to appear in the distance a blue cloud rising from the inland, a range of soft rolling hills, the only ones that the flat peninsula can boast of, and which extend as far as to its centre. This sudden change of landscape has found expression in the name *costa alta*, high coast, left by the pilots of this region. After a few hours of sailing the hills come closer and closer to the shore, no intervening strip of level land is left; the dark form of a hill about 420 feet in height rises on the very brink of the waves, like a lofty citadel, commanding the beach as well as the approach from the sea. This conspicuous promontory, *punta Seiba* or *punta de los morros* of today, must have been in some way of good augury to the pilots, for they gave it the name of *Cabo de la boa ventura*. The river farther to the south represents the little river *Champoton*, which at the time of conquest furnished this land of drought with the means of life to a dense population. At this place, for the first time, we meet on our chart a name that is not Portuguese—the name *Caupice*. This is the name of that famous cacique *Kin-pech*, the yellow tick (converted in Campedie), a redoubtable chieftain of the country, with whom the Portuguese had a bloody encounter because a cape beneath this name *Caupice* is marked with *Cabo de chrontro*. Nowhere along the three coasts, the sailors, so it seems, had met with any serious resistance, nor had in later years the Spanish discoverers, Grijelva and Cortes, except just at this place.

Of all the other identifications we established this one, and then still a second name of a native origin will bring the series of our arguments to a conclusion. The names stand right beneath *Cabo do fim do Abrill* and we read it *cornejo*. On later maps [Ptolemy, 1508], we read *corveo*; in the Ptolemy, 1512, *Contello*; in Schooner, 1520, *Coniello*. These various readings prove the difficulty the cartographers experienced in the deciphering and spelling of the strange name. We think that Schooner came next the truth with his *Coniello*, for we are likely to find in it the name *Conil*, as still today this spot is named, or with its full name, *las bocas de Conil*, the springs of Conil. At the distance of only 8 kilometers from the shore a volume of sweet water bursts through the salty surface. Flocks of aquatic and migratory birds are seen hovering over it do dip their beaks into the bubbling of so sweet a well. It is also a fountain for the thirsty native fisherman, and we can fairly imagine that our foreign pilots were attracted by the phe-



nomenon, and did not fail to profit by it and to fill their empty casks.

Therefore, not one of the physical features that describe the three coasts of the peninsula of Yucatan escaped their attention.

The expedition had been made at great expense and risk, and the facts with regard to it had become a part of the national record. But for obvious reasons the management of the affair, with all its consequences, had to shun the open daylight, and the final result, though not without significance, remained in itself a fruitless one. A chart showing that explorations had been made in the Castilian waters had to be carefully concealed in the private archives of the King of Portugal. But we can not imagine that his officers would have been bold enough to serve him with a disfigured image of their survey. They will have brought him the genuine image of the peninsula. The King may have liked to have it drawn and represented on the large map of his oceanic possessions which adorned his cabinet, yet he must have shrunk from the idea, because this was too much of an exposure. There are always brains ready for invention in order to suit a King's pleasure. Some deft counselor may have suggested that the chart might be so drawn as not to attract particular attention and to distort the body of the peninsula to such a degree as to remain almost unintelligible, except to those who possessed the key.

\* \* \* \* \*

### THE MOABITE STONE

THE Rev. F. Klein, of the Church Missionary Society, made a journey to Jebel Ajloon and the Bekka in August, 1868, over a country which had only been visited two or three times by Europeans during this century. On his arrival at Debân, August 19, he was informed by his friend and protector, Sheikh Zattam, that scarcely ten minutes from where they had pitched their tents there was a black basalt stone, which turned out to be 3 feet 10 inches in height, 2 feet in breadth, and 14½ inches in thickness, and rounded both at the top and bottom to nearly a semicircle,\* with an inscription on it consisting of 34 straight lines running across the stone, about an inch and a quarter apart.

Mr. Klein, who is (or was) in fact the real discoverer of the Moabite Stone, did not understand the import or the immense importance of the precious monument, and therefore satisfied himself with merely taking a drawing of a few words and compiling an alphabet from it. Still, from the whole appearance of the monument, he was impressed with the fact that it ought to be in a European museum, and accordingly at once set negotiations on foot to secure it for the museum at Berlin. Dr. Peterman, of Berlin, to whom Mr. Klein described his find, endeavored to get possession of it, and then transmit this huge and heavy block to his Government. The stone had stood there upward of 2,500 years without the natives assigning any other value to it than a relic. The very fact that a Frank, as they

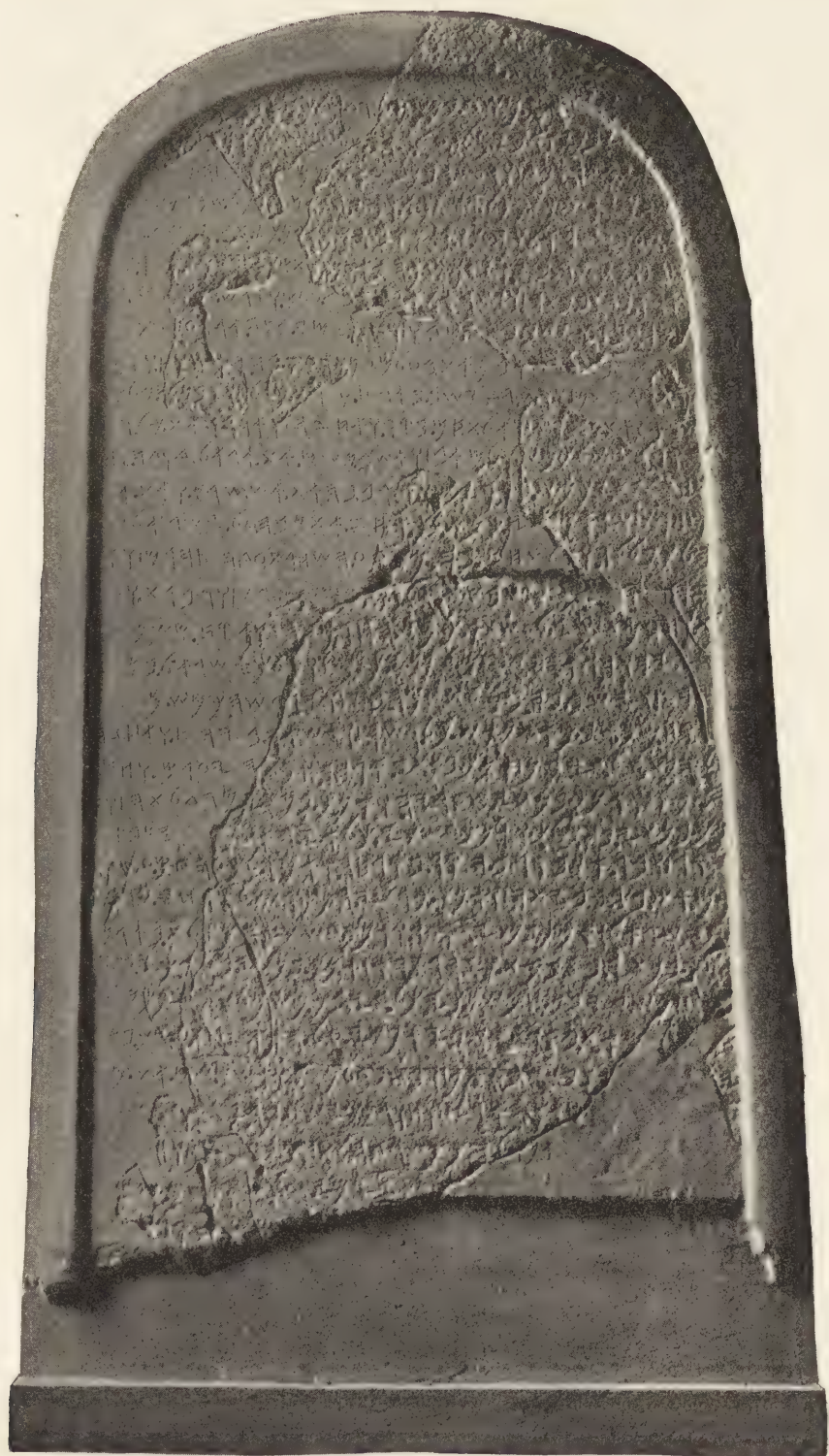
\*Mr. Klein, who was the only European who saw it before it was broken, says it was not square at the bottom. M. Ganneau never saw it in its entirety.

call every European, had seen it and was endeavoring to obtain it, at once roused their suspicions, and made the Moabites believe that it was worth, or at least they ought to ask for it, its weight in gold. Hence those of them who had an interest in getting as much for the Stone as possible, were not satisfied with having one bidder for it; and knowing that in Jerusalem there were other Europeans who, at great expense, not only compass sea and land, but even descend into the very bowels of the earth to obtain stones, bones, broken earthenware, etc., provided they are old, determined to make known their treasure to other Franks with plenty of money. Then a few weeks after Mr. Klein had seen the stone, and spoken to the natives about it, a man from Kerak came purposely to acquaint Captain Warren, the indefatigable and accomplished agent of the Palestine Exploration Society at Jerusalem, with its existence.

The design of this information need not be pointed out; and we, as good men of business, can hardly wonder that the men of Kerak, and many others in that country, should wish to become agents to "the rich Englishmen" in this matter, and try to make as good a bargain as possible. Captain Warren, knowing that the Prussian Consul was moving in the matter to get possession of it, and that he had actually "obtained a firman for the Stone," like an English gentleman, would take no action, and did not feel at liberty to concern himself about it, until the spring of 1869.

It was at this time that another antiquarian appeared on the scene. The Rev. Dr. Barclay related the circumstances of the Stone and the slow process by which the Prussians tried to secure it, both to Captain Warren and M. Clarmont Ganneau, of the French Consulate at Jerusalem, in the spring of 1869. Both expressed surprise when they learned that no squeeze or copy of the inscription had been taken. But all they could do was to call on Mr. Klein to ascertain the progress made by Prussian officials in securing the monument. M. Ganneau, however, who remained in Jerusalem [Captain Warren was obliged to leave for the Lebanon], finally moved in the matter, in face of the fact that the Prussians were making every exertion to secure the Stone for the Berlin Museum. Surmising the importance of this ancient monument, this young French *savant*, with more enthusiasm than discretion, employed several agents to obtain squeezes and even the Stone itself, and actually promised 200 medshedjes, or about \$1,875. This was too great a temptation, and bait for the different chiefs, each one of whom naturally wished to obtain the prize. When the Governor of Nablûs heard that there was a stone at Dhibân for which a large sum of money had been offered by the Franks, and that there had already been fighting among the Arabs, whom M. Ganneau had sent across the Dead Sea to take squeezes, he put pressure upon the Bedouins, through the Modir of es-Salt, to obtain the prize for himself. The Moabites, thus exasperated, "sooner than give it up, put fire under it and threw cold water on it, and so broke it, and then distributed the fragments among the different families, to place in their granaries, and act as a blessing upon the corn; for they said that without the stone, or its equivalent in hard cash, a blight would fall upon their crops." When Captain Warren was returning from the Lebanon to Jerusalem in November, 1869, he was met on the road by an Adwân, who informed him that the Stone at Dhibân was broken, and as proof produced a piece of it with letters, which he gave to the captain.





MOABITE STONE, B. C. (ABOUT) 890.

[*Photographed from the original.*]

Had M. Ganneau entertained the same disinterested sentiments and acted on the same principle as Captain Warren,—that it mattered little “whether the Stone got to Berlin, London or Paris,”—this precious monument might, in all probability, have now been in its original state in one of the European museums. [From the *History of the Moabite Stone*, by Dr. Ginsburg, London, 1871.]

In 1874 the Palestine Exploration Fund Society granted the request of the French Ministry of Public Instruction and Fine Arts for the fragments of the Moabite Stone, containing 56 characters, to complete the much larger portion possessed by the Museum of the Louvre. About one seventh of the inscription is wanting, and one third of the stone itself. A vast literature has grown up relating to the Stone. Its date is about B. C. 890. The chief scriptural reference in connection with the subject-matter of the inscription is *2 Kings*, ch. iii. 4.—EDITOR.

FROM *Hebrew Authority*, BY PROF. S. R. DRIVER, D.D., IN *Authority and Archæology*, LONDON AND NEW YORK, 1899.

In *2 Kings* iii. 4, 5 we read that Mesha, king of Moab, was a sheep-master, who paid the king of Israel an annual tribute consisting of the wool of 100,000 lambs and a 100,000 rams, but that after the death of Ahab [*c.* 850 B. C.] he rebelled. In 1868 Dr. Klein, a German missionary in Jerusalem, was fortunate enough to discover at Dhibân, on the east side of the Dead Sea, the site of the ancient Dibon [*Isa.* xv. 2], a slab of black basalt, bearing an inscription which proved to contain Mesha's own account of the circumstances of the revolt. Through some misunderstanding, in the course of the negotiations for the acquisition of the stone, the suspicions and cupidity of the native Arabs were aroused: they imagined that they were about to be deprived of some valuable talisman; they therefore put fire under it, poured cold water over it, and being then able to break it in pieces, they distributed fragments of it as charms among the people of their tribe. Happily, however, a squeeze of the inscription had already been secured: many of the fragments also were afterwards recovered; so that, although occasionally a letter or two is uncertain, and parts of the last few lines are missing, the inscription is in the main quite intelligible and clear. The language in which it is written resembles closely the Hebrew of the Old Testament. The following is a translation of the inscription:—

- <sup>1</sup> I am Mesha<sup>1</sup>, son of Chemoshmelek, king of Moab, the Daibonite.  
<sup>2</sup> My father reigned over Moab for 30 years; and I reigned <sup>3</sup>after my father. And I made this high place for Chēmōsh in KRHH,<sup>a</sup> a high place of salvation, <sup>4</sup>because he had saved me from all the kings (?), and because he had let me see (my desire) upon all them that hated me.  
Omri <sup>5</sup>was king over Israel, and he afflicted Moab for many days, because Chemosh was angry with his land. <sup>6</sup>And his son succeeded him; and he also said, I will afflict Moab. In my days said he th[us]; <sup>7</sup>but I saw (my desire) upon him, and upon his house, and Israel perished with an everlasting destruction.  
Omri took possession of the [la]nd <sup>8</sup>of Mēhēdeba, and it (*i.e.* Israel) dwelt therein, during his days, and half his son's days, forty years; but Chemosh [resto]red <sup>9</sup>it in my days.  
And I built Ba'al-Me'on, and I made in it the reservoir (?); and I built <sup>10</sup>Kiryathēn.

<sup>a</sup>The vocalization of these names is uncertain.



And the men of Gad had dwelt in the land of 'Ataroth from of old; and the king of Israel <sup>11</sup>had built for himself 'Ataroth. And I fought against the city, and took it. And I slew all the [people of] <sup>12</sup>the city, a gazingstock unto Chemosh, and unto Moab. And I brought back (*or*, took captive) thence the altar-hearth of Dawdoh (?), and I dragged <sup>13</sup>it before Chemosh in Keriyyoth. And I settled therein the men of SHRN,<sup>a</sup> and the men of <sup>14</sup>MHRTH.<sup>a</sup>

And Chemosh said unto me, Go, take Nebo against Israel. And I <sup>15</sup>went by night, and fought against it from the break of dawn until noon. And I took <sup>16</sup>it, and slew the whole of it, 7,000 men and . . . . ., and women, and . . . . ., <sup>17</sup>and maid-servants: for I had devoted it to 'Ashtor-Chēmōsh. And I took thence the [ves]sels <sup>18</sup>of YAHWEH, and I dragged them before Chemosh.

And the king of Israel had built <sup>19</sup>Yahaz, and abode in it, while he fought against me. But Chemosh drove him out from before me; and <sup>20</sup>I took of Moab 200 men, even all its chiefs; and I led them up against Yahaz, and took it <sup>21</sup>to add it unto Daibon.

I built KRHH,<sup>a</sup> the wall of Ye'arim (*or*, of the Woods), and the wall of <sup>22</sup>the Mound. And I built its gates, and I built its towers. And <sup>23</sup>I built the king's palace, and I made the two reser[voirs (?)] for wa[ter] in the midst of <sup>24</sup>the city, and there was no cistern in the midst of the city, in KRHH.<sup>a</sup> And I said to all the people, Make <sup>25</sup>you every man a cistern in his house. And I cut out the cutting for KRHH<sup>a</sup> with the help of prisoner[s <sup>26</sup>of] Israel.

I built 'Aro'er, and I made the highway by the Arnon. <sup>27</sup>I built Beth-Bamoth, for it was pulled down. I built Bezer, for ruins <sup>28</sup>[had it become. And the chie]fs of Daibon were fifty, for all Daibon was obedient (to me). And I reigned <sup>29</sup>[over] an hundred [chiefs] in the cities which I added to the land. And I built <sup>30</sup>Mehēdē[b]a, and Beth-Diblat'hēn, and Beth-Ba'al-Me'ton; and I took thither the *naked*<sup>b</sup>-keepers (?),<sup>31</sup> . . . . . sheep of the land.

And as for Horonēn, there dwelt therein . . . . . and . . . . .<sup>32</sup> . . . . .  
 . . . . . Chemosh said unto me, Go down, fight against Horonēn.  
 And I went down . . . . .<sup>33</sup> . . . . . [and] Chemosh  
 [resto]red it in my days. And I went up thence to . . . . .<sup>34</sup> . . . . .  
 . . . . . And I . . . . .

The inscription is of great interest, both historically and linguistically. In the Book of Kings, the revolt of Mesha is said to have taken place after the death of Ahab; but from line 8 of the inscription it is evident that this date is too late, and that it must in fact have been completed by the middle of Ahab's reign. The territory on the east of Jordan and the Dead Sea, North of the Arnon, belonged ostensibly to Reuben and (contiguous to it on the North) Gad; but these tribes were not able to hold it permanently against the Moabites. David reduced the Moabites to the condition of tributaries [2 Sam. viii. 2]; but we infer from the inscription that this relation was not maintained. Omri, however, determined to reassert the power of Israel, and gained possession of at least the district around Medeba, which was retained by Israel for 40 years, till the middle of Ahab's reign, when Mesha revolted. The inscription names the principal cities which had been occupied by the Israelites, but were now recovered for Moab, and states further how Mesha was careful to rebuild and fortify them, in the event of a siege. Most of the places named are mentioned in

<sup>a</sup>The vocalization of these names is uncertain.

<sup>b</sup>The name of a choice breed of sheep. The word is partly obliterated: if restored correctly, it will be the one which is used of Mesha in 2 Kings iii. 4 (A.V. "sheep-master").

the Old Testament, in the passages which describe the territory of Reuben [Josh. xiii. 15-23] or Gad [Josh. xiii. 24-8], or allude to the country occupied by Moab [Isa. xv. 2, 4, 5, Jer. xlvi. 1, 3, 18, 19, 21-4, 34, 41].

The inscription furnishes many interesting illustrations of the ideas and language of the Old Testament, though only a few can be noticed there. "High places" [line 3] are often mentioned as places at which the worship both of Jehovah and of other gods was carried on [*e. g.* 1 Kings iii 2, 3, 4, xi. 7, Isa xvi. 12]. Chemosh is several times named as the national god of Moab; and the Moabites are called his "people" in Jer. xlvi. 46, and his "sons" and "daughters" in Numb. xxi. 29. The phrase in line 4, lit. "let me look upon them that hated me" (*viz.* in triumph), is verbally the same as that which occurs in Ps. cxviii. 7 [cf. lix. 10]. The terms in which Chemosh is spoken of are singularly parallel to those used with reference to Jehovah in the Old Testament: Chemosh is, for instance, "angry" with his people [cf. Deut. ix. 8, 2 Kings xvii. 18]: he says to Mesha, "Go, take Nebo," or "Go down, fight against Horonên," just as we read, for instance, in 1 Sam. xxiii. 4, "Arise, go down to Keilah," or in 2 Sam. xxiv. 1, "Go, number Israel and Judah": he "drives out" Mesha's foes before him, just as Jehovah "drives out" (the same word) the foes of Israel [Deut. xxxiii. 27, Josh. xxiv. 18]. The expression "gazingstock" [line 12] is used similarly by Nahum [iii. 6]. The custom of "devoting" (or "banning") captives to a deity [line 17] is one to which there are repeated references in the Old Testament: see, for instance, Deut. vii. 2, "When Jehovah thy God shall deliver them up before thee, and thou shalt smite them, then thou shalt *devote* them" (A.V. "utterly destroy them"), 1 Sam. xv. 2, "Now go, and smite Amalek, and *devote* (A.V. "utterly destroy") all that they have," v. 8, "And he *devoted* (A.V. "utterly destroyed") all the people with the edge of the sword." Ashtor-Chemosh, in the same line, must be a compound deity, of a type of which there are other examples in Semitic mythology: Ashtor would be a male deity, corresponding to the female Phœnician deity, Ashtoreth. It is interesting to learn from lines 17 and 18 that there was a sanctuary of Jehovah in Nebo, with "vessels," implying an altar, and the other requisites for performing sacrifice. The word rendered "obedient" in line 28 (lit. *obedience*) is exactly the same as that which occurs in Isa. xi. 14, lit. "and the children of Ammon (shall be) *their obedience*." Linguistically, the idiom in which the inscription is written differs from Hebrew only dialectically; small idiomatic differences are observable; but on the other hand it shares with it several *distinctive* features, so that, on the whole, it resembles Hebrew more closely than any other Semitic language at present known. In point of style, the inscription reads almost like a page from one of the earlier historical books of the Old Testament. Its finished literary form combines with its contents in shewing that the civilization of Moab, in the IX century, B. C., was hardly inferior to that of its more celebrated neighbours, Israel and Judah.







PUEBLO WALPI, ARIZONA



# RECORDS <sup>OF</sup> THE PAST

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PART III

## THE PREHISTORIC RUINS OF THE SOUTHWEST

BY PROFESSOR U. FRANCIS DUFF

**T**HROUGHOUT an extensive territory in the southwestern part of the United States, including the greater portions of Arizona and New Mexico and parts of Colorado and Utah, scattered through the high valleys of the great plateau region and located in recesses in the walls of the mighty canyons, which here scar the rugged face of nature, are found a vast number of most remarkable and interesting groups of prehistoric ruins.

It has been claimed that their inhabitants were closely allied in relationship to the Aztecs of Mexico; but this is not likely, although they were, no doubt, closely related to the modern Pueblo Indians.

The ruins, of which there are thousands, may be divided into three general classes or kinds:—Cliff-dwellings, Cavate lodges and village or pueblo ruins. The Cliff dwellings were great stone houses built in recesses in the tremendous walls forming the sides of deep canyons. These walls are generally formations of sedimentary rock, layers of a very hard air-resisting sandstone, alternating with beds of a very powdery coquillary stone. The latter strata, becoming disintegrated by the action of natural agents, left holes, cavities and grottoes of all dimensions, with the sandstone on top forming a roof. In some places the erosions extend along the entire surface of the bed, leaving a long, but as a rule not very deep gallery. Everywhere on the cliffs and in the inequalities in the rocks, the Cliff-dwellers laboriously succeeded in building their houses. Any situation seemed to please them, provided it gave hope of a little security.

The cavate lodges are located in cliffs of some soft friable material, the dwellers having taken advantage of the character of the rock to work themselves out homes. Sometimes they utilized natural caves, walling up the front, with the exception of a doorway.

The village, or pueblo ruins may be mentioned as belonging to two classes; the older ones were built in the valleys, near their farming lands,

but later their sites were removed to promontories, or little hills jutting out into the valleys. Some were built on even more inaccessible highlands.

Cliff dwellings are numerous in many parts of the southwest, but perhaps the best examples of this form of house are to be found in the San Juan country, in Colorado; in Canon de Chelly, in Arizona and New Mexico; in Walnut Canyon and the valley of the Rio Gila, in Arizona.

The cliff house takes its shape from the platform on which it stands, and it is wonderful to see the art with which the walls are soldered to the sides of the rock, and the care with which the appearance of the neighboring rocks is reproduced in the exterior architecture. Some maintain that these dwellings are more recent than the pueblos, but the stone arrows and the fragments of pottery which have been found hardly bear out this view. [See Frontispiece Part I. Upper illustration.]

No part of the whole southwest is so rich in communal cliff dwellings, as the Mesa Verde in the southwestern part of Colorado. This is a great timbered plateau some 35 miles long and 12 or 15 wide. The Mancos river, flowing through it, with its tributaries, has at some far-distant period ploughed across it, a number of deep canons. It is in the towering walls of these mighty chasms, that the Cliff men built some of their most elaborate and imposing strongholds. Here, perched like eagles' nests in the vast clefts, are houses containing from one hundred to two hundred rooms. Some of the dwellings are as much as 800 feet above the level of the river, with at this time, no visible means of approaching them. Others can be reached through the medium of tortuous paths, with here and there shallow foot-holds and notches cut in the rock.

One is continuously impressed, in excavating, by the wonderful preservation of things which in most climates would have quickly rotted. The climate is so very dry and the remains have been so well protected from rain in the deep caverns and grottoes, that the usual processes of decay have been largely held in check.

In the heaps of refuse, which are found in the recesses back of the houses and on some of the shelves not used for building, where shallow pits have been scooped out and sometimes lined with stones or clay, are found the bodies of the dead. Many of the skeletons are well preserved, and occasionally the whole body is mummified and in very perfect shape.

The inner walls of the houses are usually coated with a thin layer of plaster and the rooms are of many shapes and sizes, with a fire-place usually in one corner, but sometimes in the center of the room.

The Cliff-dweller was a man of the stone age; arrow-heads, stone knives and stone axes are found in abundance, but no copper tools. Many mortars and pestles, metates, or grinding-stones, beads, bone punches, charms and ornaments and a great deal of fine pottery are exhumed. Sandals woven of the yucca plant, baskets, head-rings, feather blankets interwoven with yucca fiber and another kind made with rods strung something after the manner of a venetian blind, are frequently met with.

I am of the opinion that the Cliff dweller did not resort to such elevated and in many cases, almost inaccessible sites because he was a coward, but from the fact that they were bound to the soil by more ties than the wild wandering tribes that surrounded them, because they were agriculturists and in order to be near such land as was suited to their purpose, they





MUMMIES FROM GRAND GULCH, S. E. UTAH



ESTUFA IN PUEBLO BONITO, N. M., SHOWING FIREPLACE IN CENTER

*[From a photograph by Mr. George H. Pepper]*

could afford to put up with the many inconveniences unavoidably attendant upon their manner of life.

The savage hunter, after a fierce foray, vanished into the dim distance, it was a part of life, but the agriculturist driven from his home, was ruined.

The cliff dwellings at various places offer about the same field to the investigator. The buildings vary only in the modifications made necessary to meet the requirements of local conditions; these generally have to do with availability of site and building material. In all, the remains are quite similar, showing a like condition of life.

Cavate lodges comprise a type of structure closely related to Cliff houses; the term is comparatively a new one and the structures themselves are not widely known. They differ from the cliff house and cave dwellings principally in the fact that they are hollowed out of cliffs and hills chiefly by human agency; the difference is principally if not wholly the result of a different physical environment. Cavate lodges are known to occur in considerable numbers, in but four regions in the United States, viz.; on San Juan River, near its mouth; on the western side of the Rio Grande near the pueblo of Santa Clara; near Flagstaff, Arizona and in the valley of the Rio Verde, in Arizona. In the cliffs along the last mentioned river there are thousands of cavate lodges, sometimes in clusters of two or three and again in groups comprising several hundred rooms. All the strata comprising the formation of the cliff here are very soft and are in some places minutely laminated, so that a blow on the roof with a stone or other implement will bring off slabs varying from  $\frac{1}{2}$  to  $1\frac{1}{2}$  inches in thickness. Under these conditions the excavating of a room even with the most primitive tools, did not require a great amount of effort.

Both cavate lodges and cliff dwellings proper are frequently connected with village ruins, located either in the valleys below or on the mesas above them. It may be, that in some instances, they occupied the village during a portion of the year, probably in the summer season, while their crops were growing; this is mere conjecture, but it is known to be the custom of some of the modern pueblos.

While cavate lodges are not of infrequent occurrence and cliff dwellings are located by the hundreds in scores of places in the southwest, they do not begin to compare in number and frequency with the village or pueblo ruins, which are found in the valleys of the streams; in the high basins scattered through the mountains and on the very ranges themselves, throughout the whole of this tremendous region.

In New Mexico, Arizona and Utah, there are literally thousands of these moldering remains of a forgotten and mysterious past. In most cases there is now left to mark their sites but little more than a great heap of stones and earth, although very rarely the walls of buildings which were four or five stories high, are still standing. The greater number of these ruins are found in the western half of New Mexico, the eastern half of Arizona, the southeastern part of Utah and southwestern Colorado. Many of these old communal houses were of great size; the ruins of one on the Rio Verde in Arizona cover an area of 5 acres, and there are 225 rooms on the ground floor.

A study of the modern pueblos of Zuni, Taos, Acoma and others, will, I think, give a very good idea of life as it existed in those which were but dust and ashes when Coronado with his gallant little band of adventurers





GENERAL VIEW OF PUEBLO BONITO, AS SEEN FROM THE CLIFF AT THE NORTH OF THE RUIN  
THE DARK LINE RUNNING ACROSS THE PICTURE IS THE ARROYO, OR CHACO RIVER, AND THE MESA BEYOND FORMS THE SOUTHERN LIMIT OF THE CANYON  
[From a photograph by Mr. George H. Pepper, Director of the Hyde Expedition]

crept slowly northward across the gleaming sands of that wonderful new land. The style of architecture employed by the builders of the houses which are now in ruins, is found on investigation, to be practically the same as that of the modern pueblos.

In the western part of Socorro County, New Mexico, about 30 miles from the line of Arizona, in the valleys of the Rio San Francisco and its tributary the Rio Tularosa, is a region rich in prehistoric remains. As these are typical remains, a short account of them will probably convey a better idea of the ruins than a more general description of all. The most striking of these old stone dwellings lie along the upper course of the Rio Tularosa, where they are found in great numbers from its source on the western slope of the continental divide to a point 16 miles below, where the valley narrows to a mere rocky gorge or box canyon.

The valley of the Rio Tularosa is limited in extent, being in no place more than one-half mile in width; the soil, which is deep, rich alluvium, is of amazing fertility and productiveness. From the head of the river to the box canyon I counted 78 ruins on the southern bank and 68 on its northern. The houses, which were built of stone set in adobe mortar, varied in size from the single-room, one-story building to structures three or four stories high, and probably containing several hundred rooms. It is not likely that they were all occupied simultaneously, nor is it probable that the population, either here or elsewhere, was ever so great as the number of buildings might lead one to suppose. Most of the ruins are found on little promontories jutting out from the base of the slope; others were built on elevated flats, but always out of the reach of high water, and where possible, in a defensible position. Here in the bygone centuries the primitive man lived his little round of life,—how many ages ago is at present unknown. The extreme age of the ruins is shown by their present condition, even the largest of them being no more than a great heap of stones and earth [See Casa Grande Ruin, Frontispiece Part I.]; while in some gigantic trees are standing, which are evidently the growth of centuries.

The rooms of these old castles varied greatly in size; many are about 9 by 6 feet, while others will be four or five times as large. None of the houses were supplied with chimneys and the smoke escaped as best it might; probably through the hole in the ceiling when another room was not located above, or maybe through the small openings in the walls, which are occasionally discovered. Doorways are not common, being very seldom found in outside walls and ingress was no doubt had from above, as in the modern pueblos. Circular depressions, marking the sites of the estufas, which were underground chambers in which religious ceremonies and councils were held, are found near all of the ruins. According to the testimony of Mariano Ruiz, who lived for many years with the inhabitants of the pueblo of Pecos, as the adopted son of the tribe, the sacred fire was kept burning in the center of these estufas. In all the years he lived with them this fire was carefully attended and on the removal of the weakened remnant of the Pueblo of Jemez, it was conveyed thither.

Over 2,000 pieces of whole pottery have been dug from three ruins on the Delgar ranch, in western New Mexico. The pottery is found in the graves with the dead; many of the graves are under the floors of the rooms, others are located outside the walls, generally on the southern or eastern side. Twenty-one skeletons were exhumed from a single room, and from





POTTERY FROM DELEGERS, NEW MEXICO



METATE AND HAND STONE, STONE AXES, AND IMAGE OF A BEAR, NEW MEXICO

another 9; in these successive burials had been made, one above another. Sometimes 12 or 15 pieces of pottery, or even more, are found grouped about a single skeleton, but the general average is from two to four. Some of the bodies have evidently been wrapped in rude mats; these are so decayed, however, that they crumble to dust when exposed to the air. Judging from their skeletons, they were, generally speaking, men of average height, strong-limbed and heavy-jawed, with well shaped skulls.

Their great respect and reverence for their dead is shown in the fact that they buried them in their living-rooms, and placed in their graves, when they started them upon their long journey so much, that to them, was very precious.

The pottery of the Cliff dwellers and that of the valley people is very much alike, there being five principal kinds: the black-and-white decorated ware; that with the black and red decorations; the corrugated kind; the smooth bowls with black lining, and a plain red variety. It is found in many shapes and sizes; is of excellent make and quality, and the decorations which are of endless variety, are well preserved.

In the rooms of the New Mexico Historical Society at Santa Fe are several hundred stone idols which were excavated from prehistoric villages in the central portion of the territory. These are the property of Hon. L. Bradford Prince, ex-governor of New Mexico, and make a very remarkable collection.

There are very few ruins east of the Rio Grande, the principal exception being that of the so-called Gran Quivira; but these striking remains are, in reality, a modern product, the buildings having been erected under the direction of the Roman Catholic Fathers of the Mission located at that place in the latter part of the XVII century; although there was an Indian pueblo located there previous to the founding of the Mission, of course.

Wonder is often expressed by investigators over the fact that many of the ruins are located miles from water. This is, in part explained, when it is known that the tribes would often "kill" the water, when for any reason, they were compelled to abandon a village. Near his home in Valencia County, New Mexico, Mr. Amado Chavez accidentally discovered a spring which had been killed in this manner.

In crossing a barren plain near his ranch at San Mateo, and near some undistinguishable ruins, he noticed that a bit of ground gave under his horse's feet. Dismounting to investigate, he found that a small area seemed elastic and moved up and down when he jumped. Being of an inquiring turn of mind he took men out to dig there; after removing a foot of earth from an area some 10 feet square, they came to a deep layer of long strips of cedar bark; below this was a floor of pine logs, then another thick layer of bark, and so on down for several feet. Below the last layer they found a little spring of clear water, which has resumed running since they dug it out after centuries of enforced idleness.

For many years there was no water at Gran Quivira, although it was diligently sought for; but recently a spring has been discovered quite near the ruins, which had no doubt been covered up purposely.

It is claimed that evidences of an older occupation even than those above described, has been found at various places in the southwest. The Wetherill brothers who live at Mancos, Colorado, near the Mesa Verde, have exhumed remains of a class of people whom they term "The Basket Makers," that they think antedated the Cliff-dwellers of that section.



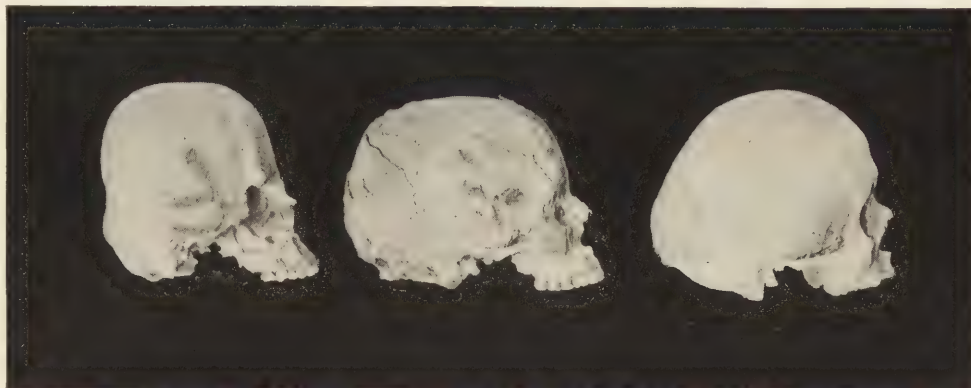
There lies within the borders of Arizona and New Mexico a great lava tract, second in magnitude in our country only to the great northwestern lava field, and fifteen times as large as the classical district of extinct volcanoes in Central France. Within this area ruins are frequently found protruding through the lava, or entirely surrounded by it, their position in the latter case on some slight elevation having protected them from the flood of liquid fire which swept past their walls.

Before archæologic investigation of the pueblo ruins commenced and when there was little knowledge extant by which travelers could check their conclusions, the great number of ruins in this region was commonly attributed to an immense population, some writers placing it as high as 500,000, and even more; beside this figure the present population, about 9,000, seems insignificant. It is very doubtful whether the total population ever exceeded 50,000. On account of failure of water for irrigating purposes, scarcity of game, or the inroads of epidemic diseases, such as diphtheria and others, with all their attending superstitions, those who lived in prehistoric times doubtlessly made many changes in the sites of their dwelling places. With the exception of Acoma, perched on its lofty rock, there is not to-day a single modern pueblo standing where it was at the time of Coronado.

These prehistoric men were farmers and hunters, living upon the products of their fields and of the chase. Of science they knew but little, but in art they were more advanced, as evidenced in the decorations on their pottery, and in carving. It is also known that they carried on a limited commerce, sea-shells having been found in many of their old homes.

Their only overt attempt to bequeath an unlettered history to posterity is found in the rude carvings which they left upon the rocks. The story of their narrow and restricted lives would, no doubt, be the same moving and pathetic recital that all other actors in the great world-drama of existence have been handing down to us through the ages. But must this remain forever a sealed book—one of the "lost tragedies"? Out of the brooding and ineffable silence which hangs over these places of the dead comes no voice.

TYPICAL SKULLS FROM COLORADO



CLIFF DWELLER

BASKET MAKER

MESA OR VALLEY DWELLER



HEAD OF STATUE FROM THE AGORA, CORINTH



## ANCIENT CORINTH UNCOVERED

BY ARTHUR STODDARD COOLEY, PH.D.

### PART II CONCLUDED

THE excavations of 1898 had enabled us to see Peirene and to identify the Temple of Apollo; 1899 found Glauke and brought us into the Agora; and 1900, while cleaning a considerable part of the market-place, bestowed upon us rich finds of sculpture and added to the collection another fountain quite different from Peirene and Glauke.

The sculpture finds were so many and so important that the Greek government built a simple Museum just west of the village square to house them. Some appear to belong to the Roman Propylæa, and consist of both statues and architectural members. They were discovered all together a short distance west of the propylæa, almost at the very outset of the work.

Of the statues one was recovered almost entire, though in three pieces, with the head perfectly preserved even to the nose, which naturally is very apt to be broken off in a fall. This figure is that of a man, much over life-size, with folded arms and beautiful curls hanging at the sides of the fine head. From the Phrygian cap, short tunic and covered arms and legs he seems to be an Oriental, perhaps a captive. The statue stands close against a pilaster, whose beautiful four-sided Corinthian capital was found and proved to fit, and rested on an altar-like base with a rude relief representing a trophy in the middle, a stumpy Victory on the right and another figure to balance it on the left.

Shortly before this statue was discovered, built into a wall upside down, a very similar figure, but less well preserved than the other, came to light. All was lost below the hips and the nose was missing, having been made separately and set in. This one's head inclined slightly forward and to the right, while the other held his head proudly erect facing the front. A similar base was assigned to this statue. Its relief also contained three figures: at the left a veiled female figure seated and comforting a miniature of the statue itself, kneeling before her and seemingly in great distress; on the extreme right a bearded male figure with a long cloak hanging from the left shoulder, hands clasped in front, and looking not at the group but straight to the front. Between him and the group is a huge helmet resting above two small oval shields crossed.

These reliefs are so poorly designed that one wonders how even the Romans could have used the bases to support the fine figures which may have stood before the piers of the Propylæa as door-keepers, one on either side. For the pilasters behind the statues and the capitals which belonged to them were for a practical purpose, and, moreover, on these capitals fitted the architrave blocks and above these the cornice blocks found close by and most probably to be assigned to the Propylæa. An attempted restoration of the better-preserved statue with its base and capital by a young artist, Master Harry Stoddard [see page 44], will give some idea of its former appearance.

Two colossal female heads of the same marble as the male figures and, as cuttings on the back of the head indicated, designed to stand against a pilaster or its capital may probably be regarded as from statues which stood in corresponding positions on the other face of the Propylæa, guarding the arched passage.

Several large pieces of coffered ceiling were also found with reliefs in the depressions, two representing Helios the Sun, distinguished by his rays, and Selene the Moon with the crescent behind her shoulders. If these pieces are likewise from the Propylæa, we have almost, if not quite enough material for its restoration.

Another showy piece of sculpture was a fine life-size head of Ariadne with the right hand pressing down an ivy wreath upon it. A large fragment of a circular base bearing a relief of two dancing Maenads, two-thirds life-size, probably comes from the pedestal on which this statue stood, either alone or in a group. Both relief and statue may be assigned to Roman times, for though the modeling is good the finish is poor. Of better work and very likely Greek is the right-hand portion of a small votive relief containing seven graceful figures.

Pausanias makes no mention of these statues in his rather brief description, while he does speak of a number of others in the Agora, so it is by no means impossible that later campaigns may yield even richer harvests in the line of sculpture.

The other great discovery of this year was the fountain. As work progressed westward beyond the place where the sculpture was found, about 100 feet from the Propylæa the men came upon a wall some 45 feet long composed of metopes and triglyphs. A remarkable thing about these is that they bear beautiful patterns in red, blue and yellow, the paint being still bright and giving us a good idea of the polychrome decoration of Greek buildings. This wall was not continuous or in the same line, but was broken near its southern end by a door-like opening and the shorter portion beyond lay some distance to the rear of the other.

As they were digging in this opening, the earth gave way beneath them and one man disappeared, sliding down with the dirt into a cavity from which he soon emerged to report a "room with columns and statues." Whatever may have been the case in regard to the statues, there was certainly a room with five rude columns supporting a ceiling formed by a pavement for which the wall of triglyph frieze served as a balustrade. Seven steps led down to the floor of this room whose purpose was revealed by the discovery of two bronze lion-head spouts in place on the back wall of the chamber and beneath them holes in the pavement where water-jars might be set. That this was probably a fountain was further indicated by the fact that this back wall was built under a crust of conglomerate like that in Peirene, where the soft yellow stone, almost clay, beneath was dug out to make water channels. Very likely an investigation would show that behind this wall are similar channels and a reservoir, of course long since dry. The waste water may have been carried off by a drain, of which it is possible that two sections have been found, one just west of the west pier of the Propylæa, the other running outside the north apse of Peirene.

The fountain doubtless dates back to Greek times before the destruction of Corinth. It can hardly be any other that Pausanias describes as follows: "And near by (the Temple of all the gods) has been built a





STATUE OF MUSE, REAR VIEW



PILLAR OF EARTH SHOWS DEPTH OF EXCAVATION



THEATER AT SIKYON



EXCAVATION OF PEIRENE



GRAVES IN THE NORTH APSE

fountain, and over it is a bronze Poseidon, and under the feet of the Poseidon a dolphin spouting water." No remains of this group were found, but on one side of the entrance is a circular base and on the other one of triangular shape on which such a group might have stood. The size of the fountain is not great, but its importance, as Professor Richardson has said [*Independent*, August 2, 1900, p. 1859], "is that it is a unique example of an ancient Greek fountain intact. Peirene had suffered at least two readjustments in Roman times, Glauke had been badly damaged by an earthquake. But this fountain had escaped the attacks of both man and nature."

Compared with the brilliant campaigns preceding that of the past season is rather disappointing, as no remarkable discovery was made. Work was continued still farther to the west beyond the fountain just described and a considerable area was cleared, especially when one considers the great depth of earth which had to be removed.

The western limit of the Agora has not yet been reached, which goes to confirm a conjecture of the writer that it lay beyond the little sunken church of St. John the Divine which may be the successor of a temple of Hermes seen by Pausanias in this part of the Agora.

Northwest of the fountain was a large vaulted chamber underground. This has been cleared out and the earth removed from the outside and it proves to be one of a series of chambers south of the Apollo Temple on what must have been the north side of the Agora. A paved street of Roman or Byzantine times was also discovered. Part of the Byzantine stairway leading up to the Propylaea (see above, p. 38, p. 43 lower illustration) was removed and the Roman pavement found below. What may prove to be the foundation of the Odeion built by Herodes Atticus was unearthed on a slight elevation 150 feet to the southwest of Glauke. This is a foundation of *opus incertum* 106½ feet long and 45 wide. As for sculpture, only two heads of poor workmanship or in bad preservation and the torso of one statue are reported.

The seemingly meagre results should not discourage the friends of the enterprise, for there is just so much less soil to be removed from the Agora, and the way has been cleared just so much for probable future discoveries. It is no small task to clear from 10 to 15 feet of soil a comparatively open space 550 feet in length and 440 feet in breadth, on the average, as the ancient Agora must have been.

It remains now to tell of the finding of the other two fountains, Glauke and Peirene, and to reconstruct their history from the remains.

Mention has been made already of the peculiar block of rock west of the Apollo Temple, with its three chambers which had in recent times served as a stable. It excited our curiosity in 1898 and from its relative position to the temple and the theatre we guessed that it might be the fountain of Glauke or the grave (or monument) of Medeia's children. But our work at Peirene and near there occupied our attention too closely to permit of an investigation that season.

In the spring of 1899, however, one day the Director told the writer to take a small gang of men and clear out at least one of the chambers to the bottom. At this time the ceiling of these rock-cut chambers was some 8 to 10 feet above the level of the road which passed close in front of the rock. The earth inside was not level, but sloped toward the back; two of the chambers were partially walled up in front; and openings in the walls be-



tween them and in the outside walls of the rock were roughly filled with stones.

It is not necessary to describe in detail the clearing out of all these chambers to the bottom, for we could not confine ourselves to excavating one. The result was three deep apartments measuring some 28 to 35 feet in length and nearly 20 feet from floor to ceiling, cut out of the rock itself and separated by thin walls of rock diminishing in thickness toward the rear. Their shape and the openings connecting them, as well as stucco on the walls, made us think we had found the fountain-house into whose cooling waters the Corinthian princess Glauke, betrothed to Jason, threw herself to assuage the torture caused by the poisoned wedding garments sent her by the sorceress Medeia, whom Jason had put away to contract the new alliance. From this incident the fountain received its name, and at the grave of Medeia's children near by yearly expiatory sacrifices were long offered by the Corinthian boys to atone for and commemorate the death of vengeance inflicted on the innocent children who bore their mother's fatal gifts to the bride.

No inlet for water was found in any of the chambers, but as a door in the outer wall of the westernmost might lead into something important outside, another trench was dug here. This revealed remains of a fourth chamber, whose former existence had been suggested by a fragment of what looked like a rock ceiling on the western side of the rock, visible in the view of Glauke before excavation. But this chamber was unlike the others in having no back. Instead, it was continued in a south-westerly direction at an angle till it was ended by a transverse wall in which were two large orifices, evidently where the water had come in from a channel beyond the wall and leading off toward Akrocorinth. The front of the chambers was also thoroughly cleared, and our conviction that we had found Glauke was confirmed by a rather complicated system of passages cut in the rock under a broad platform of the same, from which three or four steps led down toward what was probably a street under the present road; also by a deep cistern in front of the second and third chambers, counting from the east.

While clearing this out, beside a jar and some small finds, we were delighted to recover two beautiful marble lion-heads, which manifestly had served as water-spouts at this fountain. The men fairly shouted as these appeared, one close after the other, and as we brought our treasures to the Director the men in the main excavation in their excitement dropped their tools and ran to see the lions. The fortunate workman who dug them up received a large "tip."

The restoration of the facade, gives a good idea of the original appearance of this fountain-house. Very likely, when stone was being quarried here for the Apollo Temple or other buildings in early times, this cube of rock was left and turned into waterworks. Four deep chambers were cut out, leaving just enough of the rock to form walls and back and to support the roof. The westernmost chamber was extended, as described and through it was brought the water to circulate into the other chambers by doors between them. Only the upper part of the northern fronts of the chambers was open above a broad platform with steps, and these openings were further contracted by strong walls forming parapets above the platform and pierced by openings covered in front with marble lion-head spouts. The rock ceiling projected over the platform, being supported at

the ends by walls of rock ending in pilasters and between, opposite the partition walls of the chambers, by three rock columns, whose stumps are left. Thus a delightful and cool resort was formed for those frequenting the fountain, the rock giving a fine rustic effect.

One day long ago a severe earthquake shook Corinth, as is not infrequently the case even to-day, and down came a large part of this rock portico leaving the roof as at the present time. Then probably the two middle chambers were shortened by the building of a wall which formed the deep cistern now to be seen between them and the platform, and the unroofed western chamber was covered in some way and perhaps partially filled up.

The other cuttings in the pavement may perhaps be assigned to a still later stage and there is some evidence that water was flowing here within a century or two. Possibly the feeding channel has been stopped up by an earthquake and later excavations along its course from the wall at the end of the fourth chamber may reveal the cause of the cessation of the water as well as many interesting facts about these early water-works of the Greeks.

The story of Peirene is one of the most romantic in the annals of the excavator. That this fountain existed we knew from Pausanias who locates it just outside the Agora on the street leading to Lechaion, but before we were reasonably sure where the Agora lay we could hardly use these data to determine the situation of Peirene. Indeed, its discovery was almost by accident and enabled us more nearly to locate the market-place. It came about on this wise.

One day during the season of 1896 our foreman Lenz took it into his head to descend a well-shaft in the yard of a citizen of the village, Gregory Tselios by name, whose house and garden lay south-east of the temple hill and on the opposite side of the valley across which trench III was dug, and also just a short distance northwest of the great column drum in trench VII [see fig. 1 on p. 37 in part II]. Squeezing down the narrow well-shaft Lenz found at the bottom a stream of pure water flowing through an underground channel toward the fountain in the Plane Tree Square. Candle in hand he went up stream through a low passage and after crawling a few feet found himself in a large rock chamber through which the water came from a small opening beyond. Squeezing through this opening he entered a spacious cavern from which three passages cut in the soft rock led farther underground. One went southward, how far he could not tell, and was continued to the north by a second, winding and narrow, beyond a chamber like that through which he had come.

The third passage seemed more regularly constructed and turned west at right-angles to those two chambers. Going along this he found on the right a series of double door-like openings leading into four more similar chambers which were partially filled with earth. These doorways had inside the chambers marble lintels with a dental moulding supported in the middle by rude columns. The ceiling of both chambers and passage was formed by a crust of conglomerate such as crops out in various places about Corinth. Beyond the chambers was still another, smaller and irregular in shape, while the six were regularly built rectangular rooms of equal size.

Opposite this last another water channel of considerable width and height led off southward, but at its near end a reservoir was formed by a low



dam, from which the water was conducted in a tile pipe along the passage by the chambers and into the channel below Tselios's well-shaft.

On his return to the upper world Lenz reported his great discovery, but no further investigation was made until 1898, when all of us who formed the excavation company explored the place through this same well-shaft. We were then at work in the field south of trench III not far away, and our conviction was growing that the Agora was to be sought at no great distance to the south of this area. So when the Director turned to Pausanias and read again of the cave-like chambers of Peirene, which lay just outside the market-place, he felt pretty confident that these were the ones so deeply buried under Tselios's garden and determined to excavate them at once.

Not wishing to delay for the slow process of expropriation by the Government, he negotiated with the owner of the property for the portion of land over the chambers, as nearly as he could judge of their location by measurements under and above ground. Our necessity was the shrewd proprietor's opportunity, and, as the sale involved the loss of several precious trees and his well-shaft, he demanded and secured a large price for the plot of ground some 45 feet square. The well we agreed to replace by a pump, tapping the same water-system in the reservoir already mentioned. So Gregory became the possessor of the first modern pump in the village, envied greatly by his neighbors, who still used leather buckets and feared he would get more than his fair share of the water by use of the pump. Threats were even made of destroying the new apparatus, but we had it under strict guard until we turned it over to him complete, and it is probably still working in the little stone house which he built over it in the corner of his yard [see view of Peirene, p. 39].

Before work was begun on the newly purchased land the excavators in the field to the north had come upon what looked like an entrance to something and work was pushed here and at walls nearer the chambers. The track was extended to the new land and eagerly we watched the earth removed, hoping to find the outside of the chambers and to get in through the open fronts through which the earth within had fallen. At length, we found an entrance to the smaller irregular chamber on the west and soon had three chambers next this exposed to view. Their arched doorways are seen in the excavation of Peirene which shows an early stage of the work.

In front of the first two regular chambers (counting from the west) were the remains of a tiny Byzantine chapel with a little apse toward the east as usual. This was too modern for our purposes and had to be removed after proper measurements were taken to indicate it on the plan. Work on the chambers beyond was delayed by the new water-works for Tselios, for which a hole had to be drilled through the hard crust of rock over the reservoir. But at last this hindrance was removed and Gregory exchanged his leather bucket for the pump.

The work was at an advanced stage when we were honored by a visit from His Majesty, King George, who was making a grand tour of his Kingdom. When his approach from New Corinth was announced all was put in as good order as possible and the track covered with green boughs, and preparations were made likewise for his reception in the Plane Tree Square, where he and his suite alighted from their carriages, amid the *Zetos* of the people. He spent a good half-hour in the excavations and was

greatly impressed by Peirene, saying that we Americans must carry to completion this most important undertaking.

Our calculations as to the land over the chambers were not quite correct and we needed more on the east to make it safe to uncover all six chambers. So a heavy scarp wall of loose stones was piled up to hold the overhanging twenty-foot bank till the next season, while we should get more ground in the meantime, and only four chambers and a part of the fifth were left visible from outside. The old tile pipe in the passage behind them was replaced by one of iron and the double doorways from the chambers into this corridor were filled up with masonry to keep out unauthorized persons from the water channels behind.

Work was carried on simultaneously north of the chambers and revealed a massive semi-circular building with niches for three statues, apparently connected with the façade of Peirene by parallel side-walls and thus forming a fine court nearly 50 feet square. The apparent entrance mentioned above proved to be that into Peirene spoken of by Pausanias, leading into the court on the west side of the semi-circular building or apse, to give it a shorter name. The stairway it once contained has disappeared almost entirely, but on the east side of the apse is a similar entrance whose covering is gone, but whose marble stairway with a broad landing in the middle remains with the exception of one stair. It was here on this stairway that two statues were found. One was a tall female figure, headless like all statues found that year, whose drapery behind was especially well done. The other statue was the torso of a well-wrought nude female figure, head and limbs long lost, of seeming Greek work. We called it "Aphrodite" and it may have represented this goddess, whose worship was so prominent at Corinth, or possibly the nymph of the fountain.

In excavating the apse we came upon a number of graves of a late period, possibly a private cemetery connected with the little chapel built before the chambers of Peirene close by. The graves were quite long, the sides and ends built up of stones. No remains of coffins were found, I believe, and the bodies were very likely deposited here without them. The only object recovered except the bones was a tiny glass bottle.

Work was resumed at Peirene early the next season (1899). The temporary retaining wall was removed from the bank, more land having been secured, and the entire façade of six chambers exposed to view. In the centre of the court appeared a large circular basin, 20 feet and 4 inches in diameter and 3 feet, 8 inches deep, the bottom being formed by a fine pavement of an earlier period. A surprise awaited us in the discovery of two more apses, just like the one opposite the chambers, on the other two sides of the court. Each of these likewise had three statue-niches, of which several were still complete with the arched top.

From Pausanias we know that a statue of Apollo stood here, perhaps a Musagetes, though he does not say so, and the nine niches warrant us in supplying to fill them an equal number of statues of the divine sisters who formed his choir. In the court was found also the inscribed base of a statue of Regilla, wife of Herodes Atticus, who fitted the Stadion at Athens with marble seats and built there the Odeion or covered Roman theatre below the Propylaea, as well as the other Odeion at Corinth near Glauke. The inscription reads as follows:—

By the will of the Sisyphean council you behold me, Regilla, an image of virtue, beside the gushing of the fountains.





CAPITAL FROM CORINTH



FAÇADE OF PEIRENE

Even in its ruined state Peirene is very impressive. What must it have been when the traveler saw it with its marble-paved court, fountain façade and the three apses about it being also covered with marble, its statues, its clear water flowing into the chambers and filling the basin in the court and the many people in their graceful garments of varied hues thronging through the entrances and moving about in the enclosure? Some of the marble pavement of the court may be seen there to-day and pieces of the revetment of the buildings were found, while holes in the stone show where the plates of marble were attached.

And now for a brief history of the building:—Among the "seven wise men" of Greece was sometimes counted Periander, Tyrant of Corinth about 600 B. C. Like that other tyrant of two generations later, Peisistratos of Athens, he did much for the beautifying of his city and looked well to its water supply. Peisistratos constructed a system of aqueducts now being cleared out by Dr. Dörpfeld, changed the natural spring of Kallirrhoe into the famous fountain of Enneakrounos, and either built or adorned the Temple of Athena on the Akropolis, and with much probability we may assign to Periander the building of the old Apollo Temple, and the construction of water-works at Glauke and Peirene. Near the top of Akrocorinth is the famous Peirene, struck out of the rock by the hoof of Pegasus, and as the water which issued from under the crust of conglomerate in the town below came from that direction, and not improbably has some connexion with the upper spring, the name Peirene was naturally applied also to the lower spring.

Just what were the Periandrian water-works here we do not know, but in clearing out the corridor behind the chambers of Peirene we came upon the top of a large and well built arched passage which contained water. One of the members of the School explored this passage by swimming and took its measurements until the water reached the top of the arch. Then, for fear the water might escape and do damage, we closed the opening.

Whether it was the work of Periander or not, we may safely assign to Greek times [*i. e.*, before 146 B. C.] an extensive system of water channels cut in the soft clayey rock underlying the crust of conglomerate, which channels were seen by Lenz in 1896 and were explored and mapped by us to a considerable distance in 1898. The channel into which Tselios's well opened probably feeds the fountain in Plane Tree Square. Another running north, east of the sixth chamber was proved to extend to a fountain near the ruins of the Roman bath north of the square, for the same man who swam in the large arched passage crawled in this channel 1,000 feet under ground till he could see where the water flowed out into daylight through a hole, which place was identified by the Director above ground by the mud in the water stirred up by the investigator and greatly discommoding the women who were trying to wash clothes in the fountain.

When these channels were made under the conglomerate crust the chambers were probably constructed at its northern edge for water-basins, the rock being supported on thick walls of poros, which separated the chambers and ended in imitation square pilasters for ornament. Some time later the double doors at the inner end were put in, with their carved marble lintels supported in the center by tiny Ionic columns, as may be seen to-day. Probably there was a court in front of the simple chambers and



may be porticos or apses about this. At any rate, the fountain was so famous even in Pindar's time that he could designate Corinth as "Peirene's city" [*Olym.* 13, 86], and Euripides, in the *Medeia*, whose plot is laid in Corinth, speaks of the old men playing drafts at Peirene [v. 69]. A curious bit of evidence that such games were kept up here in later times is a circular game-board cut or scratched on a slab of the Roman pavement still in place near the western entrance to the court.

When the Romans rebuilt Corinth in 46 B. C., they made some changes at Peirene. In place of the simple chambers with rock ceiling in plain sight they built up a façade of two stories with arches before the chambers, as we see them, and half columns for decoration between the arches and in the upper story. Probably they rebuilt or repaired the court and the three apses and may have raised the level of the court, constructing the circular basin in the centre, though there is some reason to assign this change to a later period.

Pausanias speaks of Peirene as having been adorned with white marble. Hence, we may think that in the second century of our era some public-spirited man like Herodes Atticus, if it was not he himself, had beautified the whole structure, façade, apses, courtyard walls and all,—by covering it with a thin revetment of marble and paving the court with the same. Perhaps it was at this time that the level of the court was raised nearly 4 feet and the circular basin made. It is doubtful whether it was this basin which Pausanias had in mind, when he spoke of an open air fountain into which the water flowed. Indeed, this last year the circular basin was broken up and a much larger quadrangular basin discovered in the court.

The last important change was made in the Byzantine period, some five or six centuries after Christ. To further ornament this popular fountain a "job-lot" of unfluted Roman columns, plain circular bases, good capitals and architrave-blocks of marble was collected and set up before the façade. I say "job-lot," because little care was exercised to make these fit well, there being much variety in size in the bases especially. To this embellishment may be assigned an inscription in red paint discovered by the writer on a large marble architrave-block lying in front of the north apse which states that "this, ? which is seen (some one set up) as an ornament to Peirene."

After this we have but few hints as to the history of the fountain. At some time the little Byzantine chapel was built in front of chambers I and II, and interments were made in the apses and court, especially in the north apse. Very likely by that time the marble had largely disappeared with the statues of Apollo and the Muses, broken up and burned for lime or used in building. The two broken statues found on the stairs of the eastern entrance to the court were evidently abandoned there during removal. Finally the chapel was abandoned and the whole court filled up with soil, until it was at length buried many feet underground to await its resurrection at the hands of a strange people. Even the fountain was discontinued as a public source of supply and its water conducted underground to other places in the village.

I am often asked how to account for the great depth of soil found above these ancient ruins. Some may have been thrown there, as at Troy, to level off for a new settlement after the destruction of the old, or to fill up a hole; some may have been blown there by the winds, which often stir

up blinding dust-storms in the dry season; some perhaps was washed down from the sides of Akrocorinth or on slopes from one level to another; some may have resulted from the ruin of mud houses, though, as stone buildings are now and probably always have been the rule at Corinth, we cannot assign as much influence to this here as in other places. But a good part of it must be from the gradual and natural accumulation of soil in a settlement.

Suppose we assume, for example, that the burial of the court of Peirene has been going on gradually for a 1,000 years. The greatest depth of the paved court from the surface of the surrounding soil is 23 feet. This would make an average accumulation of but 1 foot in  $43\frac{1}{2}$  years, or a little over a quarter of an inch a year. Probably several of these causes were operative at Peirene. A careful analysis of the soil as removed perhaps would settle the question, but that is hardly feasible.

To mention a few more cases of the raising of levels at Corinth, we may refer to the different strata clearly marked in the bank of earth still covering part of the market-place; the necessity of the later inclined roadway or stairway to conduct from the Roman paved street to Lechaion to the Byzantine level of the Agora; the Roman court in Peirene, some 4 feet above the Greek (though this may be due to intentional filling); and finally, to an example in the present village square, where one of the fountains fed by the Peirene system must be reached by descending a stairway to a level about 8 feet below the surface. These statements may help us to understand why there is so much earth to be removed before the ancient remains are disclosed.

The results of the five campaigns at Corinth amply justify the work and the comparatively moderate sums expended. Much has been accomplished already, but there is a greater task yet before us, if we would make an excavation worthy of our past record,—one which may stand beside that of the Germans at Olympia, the French at Delphi, and the Greeks at Epidauros. But this can be done, if only the friends of learning in America will stand back of the Athens School and furnish the means to carry on the enterprise so well begun.



CEILING BLOCK WITH HELIOS AND SELENE



## THE ROSETTA STONE

THE ROSETTA STONE is the Key that unlocked the mysteries of Ancient Egypt. It is a stele of black basalt, 3 feet, 7 inches in height by 2 feet, 6 inches in width, discovered in 1799 during the French occupation of Egypt, by M. Boussard, an officer of Engineers while engaged in making excavations at Fort St. Julian, 4 miles north of the city of Rosetta, a sea-port-town of Egypt, on the west branch of the Nile, 36 miles east of Alexandria. On the surrender of the French Army to the British forces in 1801, the Stone was deposited in the British Museum. The remarks of Bunsen, the distinguished historian and archæologist, are not without interest here:—

This seemingly insignificant stone shares with the great and splendid work, *La Description de l'Égypte*, the honor of being the only result of vital importance to universal history, accruing from a vast expedition, a brilliant conquest, and a bloody combat for the possession of Egypt. That grand conception, the early forecast of a young hero—the colonization of Egypt by Europeans, which Leibnitz had proposed to Louis XIV., and Bossuet, as a passage in his universal history proves, urgently recommended—had wholly failed, and seemed destined to disappear from the page of history, like a stroke upon the waters, without leaving a trace behind it. After a bloody and fruitlessly protracted struggle, upon which millions of treasure and unnumbered hetacombs of human life were sacrificed, the cradle of civilization, the land of monuments, was again unconditionally surrendered to the dominion of barbarians. \* \* \* Under these circumstances, we may consider that splendid work on Egypt as a sort of sin-offering for all the blood which has been so vainly shed on her soil.

As will be seen from the illustration, the inscription is in three languages, viz., the *Hieroglyphic* which was the original and classic form of Egyptian writing; the *Demotic*, a running or cursive writing, the ordinary hand-writing used in the later dynasties, and the Greek which was understood by all classes at the time the Stone was set up in the Temple of Ptah in Memphis and other temples throughout Egypt about 195 B. C. The following is a translation of the Stone by Professor J. P. Mahaffy, LL. D., and published in his *Ptolemaic Dynasty*.

### TRANSLATION OF THE ROSETTA STONE.

In the reign of the young<sup>1</sup>—who has also received his royalty from his father—lord of crowns, glorious, who has established Egypt, and is pious towards the gods, superior to his foes, that has set up the life of men, lord of the 30 years' feasts, even as Hephæstos the Great;—of the king, like the sun, a great king of the upper and lower country; of the offspring of the Gods Philopatores, whom Hephæstos (Ptah) has approved,<sup>2</sup> to whom the sun (Ra) has given the

<sup>1</sup>The reader who compares this with the opening of the Canopus decree will at once see what progress Egyptian ideas and style have made in the interval [238–196 B. C.]; the Greek copy is now a slavish translation of the Egyptian. The Greek text is printed with a commentary in *Empire of the Ptolemies*, pp. 316–327.

<sup>2</sup>This refers to the solemn and private visit paid by the king to the inner shrine of Ptah for his coronation.

victory, the living image of Zeus (Amon), son of the sun, of 'Ptolemy living for ever beloved of Ptah,'<sup>1</sup> in the 9th year, when Aetos, son of Aetos, was priest of Alexander, and the Gods Soteres, and the Gods Adelphi, and the Gods Euergetes, and the Gods Philopatores, and the God Epiphanes Eucharistos;<sup>2</sup> Pyrrha daughter of Philinos being Athlophoros of Berenike Euergetis, Areia daughter of Diogenes Canephoros of Arsinoe Philadelphos, Eirene daughter of Ptolemy being priestess of Arsinoe Philopator, the 4th of the month Xandikos, according to the Egyptians the 18 of Mecheir. DECREE. The chief priests and prophets and those that enter the holy place for the dressing of the gods, and the feather-bearers and sacred scribes, and all the other priests who have come together to the king from the temples throughout the country to Memphis, for the feast<sup>3</sup> of his reception of the sovereignty, that of Ptolemy, 'the everliving beloved of Ptah, the God Epiphanes Eucharistos,'<sup>4</sup> which he received from his father, being assembled in the temple of Memphis on this day, declared: Since king Ptolemy, etc., the son of king Ptolemy and queen Arsinoe, Gods Philopatores, has much benefited both the temples and those that dwell in them, as well as all those that are his subjects, being a god sprung from a god and goddess (like Horus, the son of Isis and Osiris, who avenged his father Osiris), being benevolently disposed towards the gods, has offered to the temples revenues in money and corn, and has undertaken much outlay to bring Egypt into prosperity, and to establish the temples, and has been generous with all his own means, and of the revenues and taxes which he receives from Egypt some he has wholly<sup>5</sup> remitted and others he has lightened,<sup>6</sup> in order that the natives and all the rest might be in prosperity during his reign; but the debts to the crown, which they in Egypt and in the rest of his royalty owed, being many in number,<sup>7</sup> he has remitted; and those who were in prison, and under accusation for a long time back, he has freed of their charges; and has directed that the revenues of the temples and the yearly allowance given to them, both of corn and money, likewise also the proper share to the gods from vine land, and from parks,<sup>8</sup> and the other property of the gods, as it was in his father's time, so to remain; and directed also, with regard to the priests, that they should pay no more for their right of consecration (τελεστικόν) than what they were assessed up to the first year of his father's time,<sup>9</sup> and has relieved the members of the sacred caste from the yearly descent (of the river) to Alexandria, and has directed that the pressgang for the navy shall no longer exist;<sup>10</sup> and of the tax of byssus cloth

<sup>1</sup>This is the rendering of his name-cartouche.

<sup>2</sup>He had therefore already obtained this title, and association in the worship of his predecessors.

<sup>3</sup>Hence this πανηγυρις was not the actual Egyptian coronation, which took place after his victory in the 8th year, but its commemoration in the 9th.

<sup>4</sup>I shall indicate this recurring cartouche-name by 'etc.'

<sup>5</sup>I suppose εἰς τέλος means no more than this. 'Has merged into the τέλος or state revenue from other sources' is possible so far as the Greek goes.

<sup>6</sup>This lightening is said to be expressed in the demotic version by 'gave them the control of,' viz. gave back the collection of them to the priests.

<sup>7</sup>Not 'remitted to the πλῆθος of priests,' as it is usually rendered; cf. below, line 29, οὐτα εἰς σίτου τε καὶ ἀργυρίου πλῆθος οὐκ ὀλίγον.

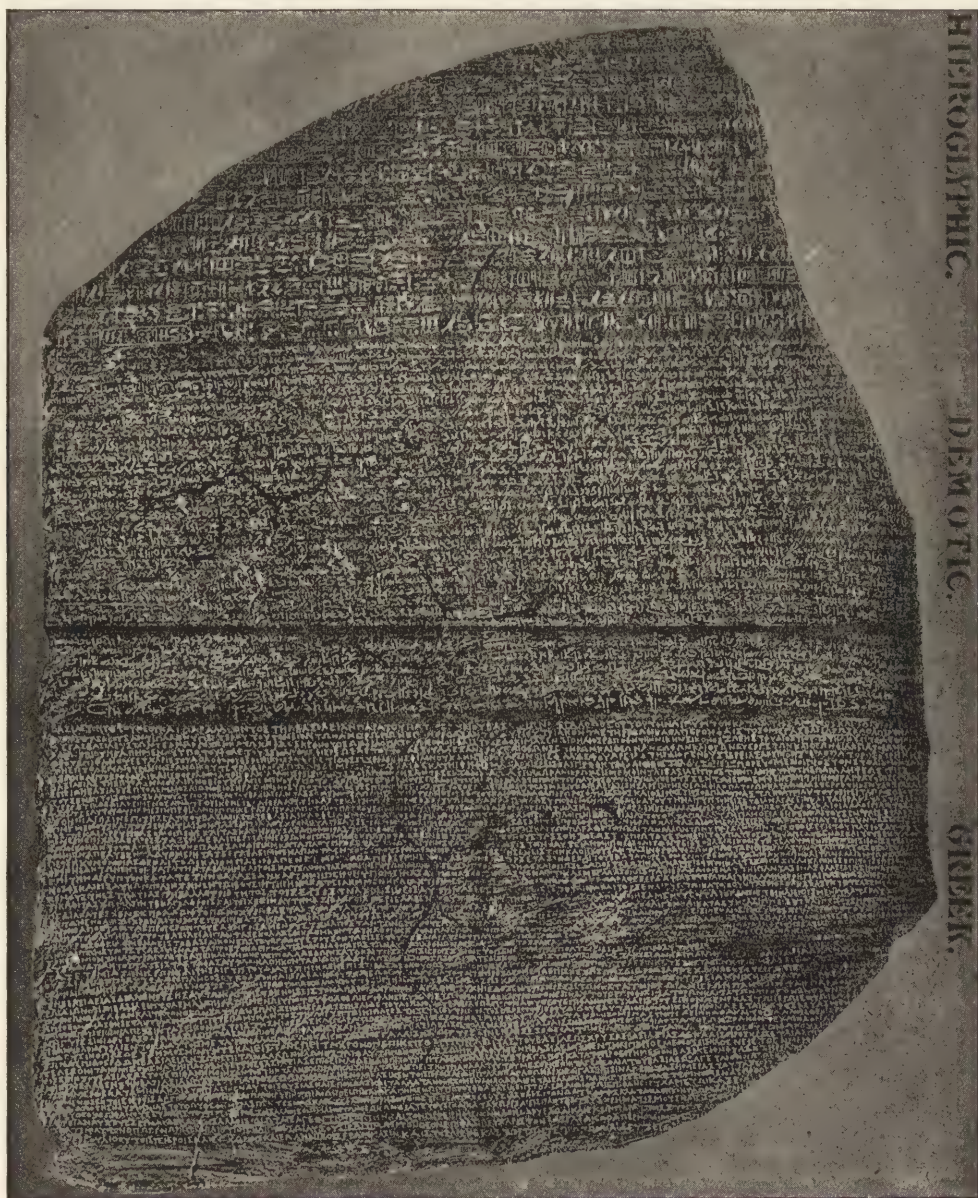
<sup>8</sup>We now know that this ἀπόμοιρα amounted to one-sixth, and had been seized by the crown, as a yearly gift to Arsinoe Philadelphus. The priests, whether truly or falsely, imply that it had been restored to the temples. A Petrie papyrus [II. xlvi.], dated the 2nd and 4th year of Epiphanes, speaks of this tax as paid to Arsinoe and the Gods Philopatores, so that the statement of the priests is probably false; but see Revenue Papyrus, p. 121, and Mr. Grenfell's note.

<sup>9</sup>This very puzzling phrase εἰς τοῦ πρώτου ἐτους ἐπὶ τοῦ πατρὸς αὐτοῦ may possibly mean during that part of the king's first year, in which his father was still alive—the odd months of the last reign always counting into the first year of the new sovereign. Probably Philopator had made some concessions just before his death.

<sup>10</sup>συλλήψιν τῶν εἰς τὴν ναυτείαν may also mean the right of seizing whatever is wanted for the navy. But the word ναυτεία is not known in this sense, and the demotic version, which is said to indicate some compulsory service, has no equivalent for it.



paid by the temples to the crown<sup>1</sup> he has remitted two-thirds; and whatever things were neglected in former times he has restored to their normal condition, having a care how the traditional duties shall be duly paid to the gods; and like-



ROSETTA STONE—PHOTOGRAPH FROM THE ORIGINAL IN THE BRITISH MUSEUM

wise has he apportioned justice to all, like Hermes the great and great.<sup>2</sup> AND he has ordained that those who come back<sup>3</sup> of the warrior caste, and of the rest

<sup>1</sup>We now know from the Revenue Papyrus [cols. 98, 99] that there was a tax on the sale of this cloth.

<sup>2</sup>I have not altered this truly Egyptian phrase, which often occurs in the form *great great*.

<sup>3</sup>Lit., who come down the river, probably from the insurgents in Upper Egypt, perhaps at Edfu, who were at this time by no means subdued.



who went astray in their allegiance in the days of the confusion, should, on their return,<sup>1</sup> be allowed to occupy their old possessions; and he provided that cavalry and infantry forces should be sent out, and ships, against those who were attacking Egypt by sea and by land, submitting to great outlay in money and corn, in order that the temples, and all that are in the land, might be in safety;<sup>2</sup> and having gone to Lycopolis, that which is in the Busirite nome,<sup>3</sup> which had been taken and fortified against a siege with a lavish magazine of weapons and all other supplies, seeing that the disloyalty was now of long standing among the impious men gathered into it, who had done great harm to the temples and all the dwellers in Egypt, and encamping against them, he surrounded it with mounds and trenches and remarkable fortifications; but when the Nile made a great rise in the 8th year (of his reign), and was wont to inundate the plains, he prevented it, having dammed from many points the outlets of the streams, spending upon this no small amount of money; and having set cavalry and infantry to guard them,<sup>4</sup> he presently took the town by storm, and destroyed all the impious men in it, even as Hermes and Horus, the son of Isis and Osiris, formerly subdued the rebels in the same district; and the misleaders of the rebels in his father's day, who had disturbed the land, and ill-treated the temples, these when he came to Memphis, avenging his father and his own royalty, he punished as they deserved at the time that he came there to perform the proper ceremonies for his reception of the crown;<sup>5</sup> and he remitted what was due to the crown in the temples up to his 8 year, being no small amount of corn and money; so also the fines for the byssus cloth not delivered to the crown, and of those delivered the cost of having them verified,<sup>6</sup> for the same period; he also freed the temples of (the tax of) the artaba for every aroura of sacred land, and the jar of wine for each aroura of vine land; and to Apis and Mnevis he gave many gifts, and to the other sacred animals in Egypt, much more than the kings before him, considering what belonged to them [the gods] in every respect; and for their burials he gave what was suitable lavishly and splendidly, and what was required for private shrines, with sacrifices and festivals and the other customary observances; and the honours of the temples and of Egypt he has maintained according to the laws; and the temple of Apis he has adorned with rich work, spending upon it gold and silver and precious stones,<sup>7</sup> no small amount; and has founded<sup>8</sup> temples and shrines and altars, and has repaired those requiring it, having the spirit of a beneficent god in matters pertaining to religion, and finding out the most honourable of the temples [or sites], renewed them during his sovereignty, as was becoming—in requital for

<sup>1</sup>It might be inferred from the D. V., which makes the word future (according to Revillout) that we should read *καταπορευσομενους*.

<sup>2</sup>Whether this refers to the campaigns of Skopas in Palestine seems to me doubtful; it seems to mean guarding the frontiers with a large force.

<sup>3</sup>There was another town in Upper Egypt (the Thebaid), on the site now known at Siout.

<sup>4</sup>*I. e.* The dams; or it may be, owing to the inundation being kept off, that he set his army to invest the rebels, who had hoped the rising Nile would raise the siege.

<sup>5</sup>The repeated mention of this solemn enthronement at Memphis in Egyptian fashion marks a new and great concession to the priests and the national feeling. It is quite certain that neither the second nor third Ptolemy had any such ceremony, almost certain that neither the first nor fourth had. They posed as Hellenistic kings, ruling over an inferior race. Now we have a very different story.

<sup>6</sup>This cause is quite obscure to us, as we do not know what *δεγματισμος* means. The demotic version is said to be, 'the complement for pieces of cloth kept back,' which implies a different reading.

<sup>7</sup>Both H. V. and D. V. give for this *corn*, a curious variant, if Revillout be credible in his rendering.

<sup>8</sup>D. V. 'amplified.'



all of which the gods have given him health, victory, power, and all other good things, his sovereignty remaining to him and his children for all time. WITH PROPITIOUS FORTUNE: It seemed good to the priests of all the temples in the land to increase greatly the existing honours of king Ptolemy, etc., likewise those of his parents, the Gods Philopatores, and of his ancestors, the Gods Euergetes and Gods Adelphi and Gods Soteres, and to set up of the everliving king Ptolemy, etc., an image in the most holy place of every temple, which shall be called that of Ptolemy, the avenger of Egypt, beside which shall stand the leading god of the temple, handing him the emblem of victory, which shall be fashioned [in the Egyptian] fashion;<sup>1</sup> and the priests shall pay homage to the images three times a day, and put upon them the sacred adornment (dress), and perform the other usual honours such as are given to the other gods in the Egyptian festivals; and to establish for king Ptolemy, etc., a statue and golden shrine in each of the temples, and to set it up in the inner chamber with the other shrines; and in the great festivals, in which the shrines go abroad, the shrine of the God Epiphanes Eucharistos shall go abroad with them. AND in order that it may be easily distinguishable now and for all time, there shall be set upon the shrine the ten golden crowns of the king, to which shall be applied an asp, as in the case of asps-formed crowns, which are upon other shrines, but in the centre of them shall be the crown called Pschent, which he assumed when he went into the temple at Memphis to perform in it the ceremonies for assuming the royalty; and to place on the square surface round the crowns, beside the afore-mentioned crown, golden phylacteries, [on which shall be inscribed] that it is (the shrine) of the king, who makes manifest *επιφανη* the upper and lower country. And since the 30th of Mechir, on which the birthday of the king is celebrated, and likewise [the 16 of Paophi<sup>2</sup>] in which he received the royalty from his father, they have considered name-days in the temples, since they were the occasions of great blessings, a feast shall be kept in the temples on these days in every month, on which there shall be sacrifices and libations, and all the ceremonies customary at the other festivals [some words lost], and to keep a feast to Ptolemy, etc., yearly (also) in all the temples of the land from the first of Thoth for 5 days; in which they shall wear garlands, and perform sacrifices, and the other usual honours; and that the priests ( . . . ) shall be called priests of the God Epiphanes Eucharistos in addition to the names of the other gods whom they serve, and that his priesthood shall be entered upon all formal documents (and engraved on the rings which they wear<sup>3</sup>), and that private individuals shall also be allowed to keep the feast and set up the afore-named shrine, and have it in their houses, and perform the customary honours at the feasts, both monthly and yearly, in order that it may be published that the men of Egypt magnify and honour the God Epiphanes Eucharistos the king, according to the law. This decree to be set up on a stele of hard stone, in sacred and native and Greek letters, and set up in each of the first, second, and third (rank) temples at the image of the everliving king.

As will be seen from the above translation of the Stone, it was set up by the priests of Memphis in honor of Ptolemy V, (Epiphanes), King of Egypt, who was married when he was 17 years old to the Syrian Princess, Cleopatra I. In connection with Professor Mahaffy's Translation of the Stone, it will be well to bear in mind his word of caution to the reader.

<sup>1</sup>From the 40 line onward the fracture at the right side becomes more serious, and invades the text, so that words, not always certain, have to be supplied to fill up the construction. But there can be no doubt regarding the general sense. I have therefore not thought it worth while to indicate each of the gaps at the close of the lines. All the English reader requires is to be assured of the substance and of the sense, and that no modern idea has been imported into the text.

<sup>2</sup>This date is recovered from the duplicate of the hieroglyphic text from Damanhour.

<sup>3</sup>This gap is filled up from the parallel passage in the Canopus decree of Ptolemy III.

The first word of caution to the reader is not to regard this document as absolutely trustworthy because it is very formal, and solemnly inscribed on stone. Fortunately, however, there must be some limits to falsehood, and had the priests, for example, copied from earlier documents (as they were wont to do) that this king had brought back the Egyptian gods from Asia, the Greek version at all events would have excited ridicule. So also they could hardly claim remission of taxes in Greek, which the king had not really remitted. The whole text, however, points to a compromise whereby the crown thought to conciliate the priesthood, and so limit or overcome the disloyalty now rampant throughout the country.

This notice of one of the most important monuments of Ancient Egypt would be incomplete without some reference to the discussion of the question as to whom the credit is due for its translation. Nearly a quarter of a century elapsed from its finding to the time when the brilliant French scholar, Champollion, completed his work and gave to the world a key for the translating of the classic language of Ancient Egypt, but to him does not belong the entire credit of the work. Dr. Young, the learned English scholar, laid the foundation upon which Champollion erected his superstructure. So much has been said upon this point that it will be, perhaps, much better to give in conclusion the generous tribute paid to Champollion near the middle of the last Century, by Sir Gardner Wilkinson, who must be regarded as a most competent and fair judge in the matter.

To have had frequent occasion to introduce the name of Champollion, to whom we are so deeply indebted, without paying a just tribute to his talents, is to me a reproach which I cannot suffer to remain unremoved. I do not wish to enter into the question respecting the discovery of the proper mode of reading the hieroglyphics: suffice it to say, that Dr. Young gave the first idea and proof of their alphabetic force, which was even for some time after doubted by Champollion. And that the merit of originality in this point is due to our distinguished countryman, I can bear a satisfactory testimony, having, with my much-regretted friend, Sir William Gell, as early as the summer of 1821, so far profited by Dr. Young's opinions on the subject, as to be enabled to suggest the supposed value of two or three other characters, beside those he had already ascertained; our taking this view of the question being solely in consequence of his discovery *that they were the representatives of letters*. But it remained for the genius of a Champollion to kindle the spark thus obtained into a flame, and to display by its light, the path which led into a clear insight into the subject, to perfect the discovery, and to lay down certain rules, applicable in individual as well as in general cases; and in justice to him be it confessed, that, if our knowledge of hieroglyphics were confined to the limited extent to which it was carried by Dr. Young, we should have no regular system to guide us in the interpretation of them, and should know little more than the alphabetic value of a few letters, without the means of affixing a positive construction to a single sentence on any Egyptian monument.

Had Champollion been disposed to give more credit to the value and originality of Dr. Young's researches, and to admit that the real discovery of the *key* to the hieroglyphics, which in his dexterous hand proved so useful in unlocking those hidden treasures, was the result of his labors, he would unquestionably have increased his own reputation, without making any sacrifice. In this, as in the case of Mr. Burton's trilingual (or rather trigrammatic) stone, and in a few other points, he may have shown a want of ingenuousness: all have their faults and vanities; but this is not a reason that the memory of one so respectable as Champollion should be aspersed, or due praise refused him; and we cannot forgive the ungenerous conduct of those who, from private pique, summon up and misapply talents to pervert truth; denying the merit of labors, which every



one, acquainted with the subject, knows to have been crowned with unexampled and wonderful success. This is not an era when we could believe men capable of lending themselves to the unworthy office of maligning one no longer living to defend himself, and one who, present or absent, merits and possesses the respect and admiration of every unprejudiced person. Yet have some been found, in more than one country, prompted to this malicious act by personal enmity, envy of his superior talents and success, or by that affectation of skepticism, which, while it endeavors to conceal ignorance, often hopes to acquire credit for discernment and superior knowledge.

When the subject of hieroglyphics becomes better understood, and the world is capable of judging how much we owe to him, the wonderful ingenuity of Champollion will be appreciated; and the greatest praise we can bestow on him is confidently to pronounce, that time will do justice to his merits, and experience prove the truth of what inexperience now calls in question.

## Notes

AN ANCIENT NAXIAN cemetery has been discovered near Taormina in Sicily. Its excavation will at once be undertaken.

DOCTORS GRENFELL AND HUNT have resumed their excavations in the Fayum under the auspices of the Egypt Exploration Fund. Their successful work of the past has led to the sending out of a French expedition under Prof. Jouguet and a German expedition under Dr. Rubensohn, both of which are to undertake explorations for papyri in the Fayum.

Mr. A. J. EVANS who has been so prominently identified with recent excavations in the Island of Crete has returned to complete the excavation of the Knossian Palace. The Committee in charge of the work of exploration in the Island recently made an appeal for funds to carry on the work in the east of the Island, but not enough money has been pledged to warrant undertaking it.

THE COMMITTEE of the German *Orient-Gesellschaft* in Berlin resolved to carry on excavations during the present and next season on the site of the ruins of Abusir (Busiris), on the left bank of the Nile. The great Babylonian undertakings of the Society will not be prejudiced in any degree, as the entire costs of the new enterprise have been provided by a wealthy member of the Committee.

NEAR PHÆSTUS in the South of Crete where the Italian archaeologists Halhew and Periner discovered last summer a great palace, there has recently been found, by some peasants, a series of rock tombs in the neighborhood of the palace, which, it is thought, belonged to the same generation of its lords. Each of these tombs, which are of the dome and chamber types, contains several skeletons, richly adorned with gold objects, such as necklaces and rings in which are set engraved gems, representing cult-scenes, demons and other typical Mycenaean subjects. The discovery is of exceptional interest since no tombs have been found pertaining to the great Cretan palaces and it is only in tombs that the rich objects of the luxurious pre-historic civilization of the island are likely to be found.

PRINCE ORSINI, the owner of the estate in which is situated Lake Nemi, a small body of water occupying what was once the crater of a volcano in the Alban Hills, about 32 miles from Rome is lending his aid to another effort to raise the two floating gardens or palaces built by the Emperor Caligula A.D. 41. The vessels measured respectively 225 and 237 feet in length by 60 and 75 feet in width.

The historian Suetonius tells us that Caligula squandered in fantastic schemes during a single year the sum of 2,700,000,000 sesterces (equivalent to about \$100,000,000 of our money) that had been left him by Tiberius, and describes among other remarkable toys constructed for his amusement floating gardens of cedar wood adorned with jewelled prows, rich sculpture, vessels of gold and silver, sails of purple silk, bathrooms of alabaster and bronze and other equally novel and costly features. Upon these floating gardens were vineyards and fruit trees. They were not only places of amusement, but temples in which the mad Emperor worshipped himself. The floors were paved with glass mosaic, the window and door frames were of bronze, many of the decorations were of almost priceless value, and the ordinary equipments were of beautiful design and costly workmanship.

These floating palaces were attached to the shore by chains and bridges were stretched across the water for the purposes of communication. Upon them occurred some of the most extraordinary orgies that a human being ever indulged in, in which cruelty, murder and the most revolting depravity were mingled with music and sport.

For some reason or another, probably during the wars that followed the reign of Caligula, these palaces were sunk, and now lie in the mud 200 yards distant from each other in five fathoms of water; one is 150 feet from the bank and the other about 250 feet.

The first attempt to raise them was made in the thirteenth century, but it was found impossible. In 1446 Cardinal Prospero Colonna employed Leon Batista Alberti, the greatest engineer of that period, but his mechanical appliances were wholly inadequate. He used pontoon bridges, windlasses and inflated bladders. In 1535 Francesco de Marchi of Bologna, a great military engineer, made another attempt, an account of which is given in his work on "Military Architecture." He was unable to do anything, but obtained accurate measurements and other valuable information concerning the objects of his search. A diver who spent several months in their examination brought up samples of richly wrought bronze which had become detached from the decorations. Nothing further was done until 1827, when another engineer succeeded in breaking off the prow of one of the vessels to its permanent injury.

Five years ago Signor Borghi, a learned antiquarian, obtained permission from the Orsini family to make another attempt, and although he was unsuccessful in accomplishing his purpose, he managed, with his grappling irons, to rip up the palaces pretty generally and has probably destroyed much of their value and beauty. He took out many beautiful decorations of bronze and marble, among them a beautiful head of Medusa, before he was stopped by the Minister of Public Instruction, who has charge of antiquarian researches in Italy. The articles are now hidden away to escape confiscation by the Government, which has been trying to get hold of them. There has been a bitter controversy over the matter in the newspapers and in pamphlets, and the Government has forbidden the use of any further methods that will injure the boats. Borghi has therefore organized a company and is now offering the shares for sale in order to raise money to drain the lake far enough to allow him to get at the ships and dredge the bottom for fragments that may have become detached. The boats are made of cedar, with a thick coating of pitch and covered with cloth, on the outside of which a skin of sheet lead of great thickness is fastened with copper nails. The decks are paved with glass mosaics of exquisite beauty.







MARBLE PAI-LOW



CARVING ON MARBLE PAI-LOW



GRIFFIN MOUNTED ON CARVED COLUMNS



MEMORIAL TABLET HALL ON A MARBLE TERRACE



# RECORDS <sup>OF</sup> THE PAST

APRIL, 1902

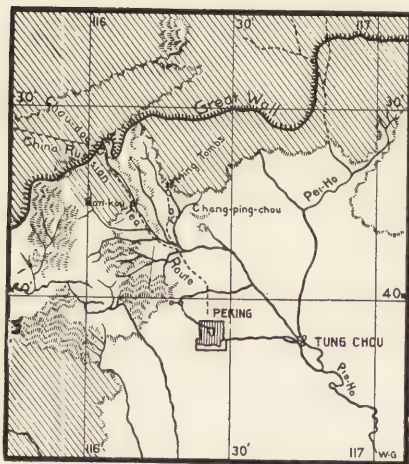
VOL. I



PART IV

## THE MING TOMBS

BY FREDERICK BENNETT WRIGHT



**T**HIRTY MILES north of Peking in an amphitheater of mountains, and on a slight elevation overlooking the fertile plains which stretch to Peking and beyond to the Gulf of Pe-che-le, the Ming emperors located their burying-place. Here the remains of 13 of them were interred with a magnificence corresponding to the prosperity of the empire at the time of their death. Although these Tombs are of comparatively recent date from an archæologist's point of view, yet for comparison with the burying-places of more ancient dynasties in other countries they are worthy of our attention. Their position above the plains

very much resembles that of the Tombs of the Egyptian kings at Thebes which overlook the broad valley of the Nile.

The reign of the Ming Dynasty lasted from 1368 to 1644 A. D., and reached its zenith early in the XV century (1403-1424), under the reign of Yung-lo, who encouraged literature and art. It was he who ordered the compilation of an exhaustive encyclopedia of Chinese literature, which was finished in 1407 and contained 22,877 books, the table of contents for which filled 60 additional volumes. Art also developed under his rule to such an extent that his wood and stone engravers became famous, and the great painters furnished new ideas and gave inspiration to the contemporary Japanese painters of Miaka and Osaka. As is fitting, the Mausoleum of this great Emperor is the most magnificent and imposing of the Ming Tombs.

After Yung-lo the decline of the empire's strength was very rapid. In 1428, four years after his death, Emperor Chengt 'ung was captured by the Tartars. As a ransom, "100 taels of gold, 200 taels of silver, and 200 pieces of silk," were demanded, but the country could not raise the money. From this time on, wars with the Japanese on the east, and the Tartars on the north and west (although as a rule the Chinese were victorious) weakened their power, so that in 1644 the last of the Ming Dynasty committed suicide on the approach of the Tartars, who easily took his capitol.

This great Dynasty chose as their burying-place a gravel terrace 100 feet above the plain which extends to the east, while a fine circle of mountains lies to the west. In this magnificent location the highest Chinese art is exhibited in the grand approach to the Tombs. The Mausoleums themselves, however, are not of special importance. Chinese architecture has never reached a high state of development and the wooden structures of to-day scarcely differ in any particular from those of 500 years ago. The first monument to be seen is the huge marble pai-low, 50 feet high and 90 feet long, which stands alone on the level plain in solitary grandeur. It is all of white marble, even the roof, which is carved to represent the characteristic style of Chinese wooden tile-roofed pai-lows. On the curved hips of this roof are rows of small marble dragons perched as if sliding down the incline on their tails. The whole is covered with fantastic designs of dragons or lions, according to the imagination of the visitor.

Beyond this most magnificent of Chinese pai-lows the roadway leads to the north across a stream which is dry most of the year, but at times must be a raging torrent, for its bed is full of large boulders. The grand stone bridge over this, reminding one of Roman work, had had its approaches carried away by the torrents; so that now mules and donkeys have to stumble along over the rough river bed.

North of this bridge is a large gate, the "Ta'-hung-men, or Great Red Gate," which used to form the entrance to an inclosure the wall of which extended to the hills on each side. Now only traces of this remain.

The next section of the road is marked by a large partly open pavilion with a dilapidated wood and tile roof, under which is a huge stone tortoise, 12 feet long, bearing on its back a stone tablet. On the tortoise is engraved a poem to the Emperor Kienlung. Around this pavilion are 4 stone pillars resting on highly carved bases, and surmounted by circular capitals on which are griffin-like animals. Below the capitals are carved wing-like appendages pointing to the east and west. The column is decorated with a spiral design, giving it, at a distance, the effect of Trajan's Column.

Beyond this pavilion begins the "Dromos, or Avenue of Animals," which surpasses in effectiveness the rows of sphinxes in Egypt. These figures are colossal in size, carved out of single blocks of grey sandstone and stand in pairs, 2 on each side of the avenue, and about 20 yards apart. The row of animals together with the men arranged at the north end, is nearly a mile long. The pavement, if any ever existed between these rows, has entirely disappeared, and now the road is a waste of angular stones and fine dust.

The first of the animals is a lion in which the sculptor, in trying to make muscles, failed completely and produced what looks like fat, which is quite foreign to the lion. Next come two pairs of unicorns, and then





REAR VIEW OF TABLET HALL



VIEW EAST FROM THE BURIAL MOUND



BRIDGE ON THE ROAD



THE TRIPLE GATE



LION



CHI-LIN



ELEPHANT



ELEPHANT STANDING



double-humped camels. These animals, with which the Chinese were so familiar, are exceedingly well carved, and at the time I saw them, on account of the drouth, stood out as if in their native element, the desert. Beyond come the elephants, which are samples of fine workmanship. Two pairs are standing, and two are not; but whether the latter are kneeling, lying, or sitting is a question for individual speculation. The workmanship of the feet, if not natural, is impressive, to say the least. Following the elephants come the Chi-lin, scaly, cloven-hoofed monsters, grotesque creations of the imagination for which the Chinese are famous. Then come two pairs of ponies which are well carved, but somewhat smaller than most of the animals, and have a stiff pose.

The Avenue is closed by a series of human figures, more than double life-size. Three pairs of these are military men in heavy, highly decorated armor, with their hands on their swords, while at the extreme end are three pairs of civil dignitaries in flowing robes. Then comes a triple gateway covered with grotesque carvings.

Another river bed has to be crossed before reaching the pavement that leads to Yung-lo's Tomb. Parts of magnificent stone bridges which once connected the Avenue with the paved road, still remain, but the approaches and some of the sections have been washed away. There is a Chinese soldier who keeps the keys to the inclosure and also guards the tombs against the desecration of tourists. He usually asks an admission fee of 15,000 cash, but by careful management this fee can be reduced to the reasonable amount of about 2,000 cash or \$1.50. In a Chinese way he was protecting these monuments as the Italians and Greeks are protecting theirs. He was armed with a blunderbuss gun, and followed us around with a piece of burning punk between his teeth ready to light the fuse which stuck out of his gun. As I did not offer him enough money he refused to let me take away any of the fallen tiles, and indicated by blood-curdling gestures that his head would be cut off if he did.

Inside of the inclosing wall you first come to a hall, the lower part of which is brick, but the roof is of wood covered with tile, glazed and colored with the royal color, yellow, and each one stamped with a dragon. All the woodwork is painted, and the beautiful blues, especially under the cornice, are well preserved. Beyond this comes a sort of memorial-tablet hall which stands on a marble terrace, the steps to which are overgrown with weeds, grass and moss. The carving on the numerous balustrades is very delicate, and bespeaks the infinite painstaking of the Chinese artists.

The building, 70 yards long and 30 deep, is of wood, and lighted by small-squared paper windows. The interior, however, is most impressive. There are four rows of pillars, 8 in each row which support the roof of the hall. These are from single trees, said "to have been brought from Yunnan and Burma," and measure between 10 and 12 feet in circumference at the base, and are "32 feet high." The effect of this lofty, semi-gloomy room is very solemn and grand. In front of a shrine in which a wooden tablet bears the name of the Emperor Yung-lo, there stands a heavy, finely carved table on which there is a large bronze incense urn in the center, a candlestick on each side, and a flower jar. With typical Chinese incongruity, the main room is separated from the shrine by a plain fence such as might be used around a chicken-coop. This common-place, shabby make-shift, although toned down by the dim light, greatly mars the effect of this hall



CAMEL



PONY

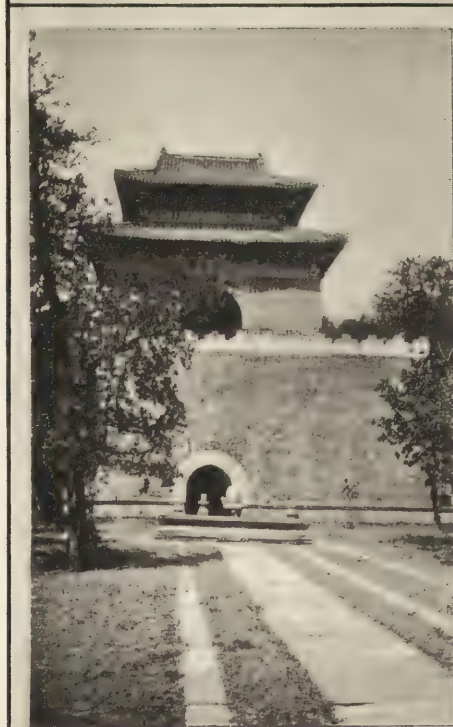




CIVIL AUTHORITY



MILITARY MAN



PAVILION INSIDE THE ENCLOSURE OF THE TOMBS



SHRINE IN THE TABLET HALL.



PAVILION CONTAINING THE STONE TORTOISE



INTERIOR OF TABLET HALL



of grandeur. The floor is covered with a thick matting, from which the dust of ages rises as you walk over it, giving the air a fragrance of antiquity. Five steps lead up to the inside of the tablet shrine, which is a marvel of exquisite wood carving, a style of work which reached its highest development under the rule of Yung-lo. Inside the shrine is a rather plain wooden tablet bearing the name of the Emperor.

Beyond this hall comes another court, and then a hall or pavilion which covers the underground entrance to the actual tomb, which lies under a tumulus 150 feet high and half a mile in circumference at its base. On the terrace of this last pavilion there is a marble tablet bearing the Emperor's posthumous title "The Perfect Ancestor and Literary Emperor." Beneath the pavilion begins the long underground passage which leads to the tomb under the hill.

From the top of the burial mound a retrospect view over the court and halls of Yung-lo's inclosure is very striking. The courts are set out with oak and pine trees, which help to cover up the general lack of care which pervades everything, and their green contrasts well with the bright yellow roofs. The mountains, covered with snow when I saw them, stretch off into the dim distance on each side and make a magnificent setting for the Tombs. In other directions around here can be seen 12 more of the Ming Tombs,—all built on the same general plan, but less grand in size and workmanship.

Amid these surroundings Yung-lo's Mausoleum stands as the climax of one of the most imposing burying-places in the world, and represents the highest attainments in art which the Chinese have yet reached.

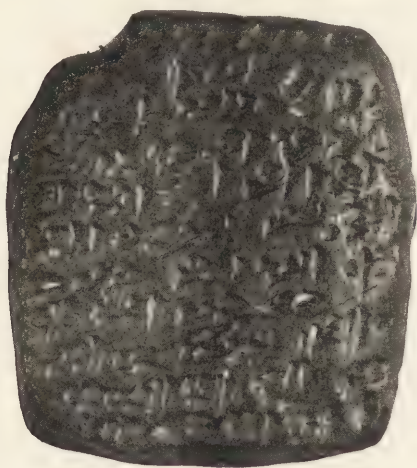
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### EXCAVATIONS AT TELL EL-HESY, THE SITE OF ANCIENT LACHISH

THE mound of Tell el-Hesy is situated a short distance northeast of Gaza. In 1890 excavations were commenced here by Dr. W. M. Flinders Petrie on behalf of the Palestine Exploration Fund, and subsequently continued by Dr. W. Bliss, who named it "A Mound of Many Cities." The examination and partial excavation of the mound led to the identification of the site as that of Lachish, and later this was confirmed by the discovery of a cuneiform letter to Zimride, a governor of Lachish.

Unfortunately the Wady Hesy, or rather its branch, the Wady Muleibah, which joins it here, is a torrent during the winter rains, and it has undermined one side of the ruins. The other sides of the mound are less steep and the surrounding soil and the top of the mound was cultivated by the Bedouin, so that it was only on its steeper sides that Dr. Petrie could make excavations without the need of buying out the crops and of restoring the surface of the land to cultivation. The hill of ruins is about 200 feet each way, it occupies the natural crests of the ground between the small drainage valleys. The nature of the soil aggravates the scouring action of the rainfall, as it is a deep bed of sand with a cap of clay on the top of it, hence the rain cannot penetrate the ground gently, but is shed off to the small watercourses which have already cut through into the soft sand and resulting in a strange furrowing of the ground.

The excavations, carried downwards 60 feet from the top of the Tell, to the rocky platform of the original site—60 feet above the stream—revealed a regular series of ruined cities, one above the other, 8 or 9 in number. The uppermost of these ruined cities belongs to the later Jewish period, representing the city destroyed by Nebuchadnezzar, below which are the ruins of the city besieged by Sennacherib in B. C. 701. Below this again, are the ruins of an older town, probably of the age of the Judges. At a still greater depth the yet older settlement of the pre-Israelite age of the Amorites. The ruins of this portion were very carefully explored, and show that the Amorite city was a fortress of great strength, "walled up to heaven." The walls were over 20 feet thick and built of mud bricks, sun-dried. When such buildings fell into ruins the roofs and upper portions of the walls resolved themselves into a mass of crumbling earth, which effectually protected and preserved the lower portion of the houses, as well as all but the most fragile of their contents. On these "heaps" [Jer. xxx: 18] of rubbish the subsequent inhabitants built their new city; and so as city after city fell into decay it made a foundation for its successor, and buried its own records, to be unearthed by explorers.\* In this portion Dr. Bliss found the remains of the residence of the governor, with a kind of primitive barrack before it. In one of the excavated chambers of this building was found a small clay tablet, in shape and style of writing resembling those found at Tell el-Amarna. This Tablet is most important, as it shows that the cuneiform writing was in common use in Palestine about B. C. 1400; a century before the conquest by the Israelites.



OBVERSE



REVERSE

Cuneiform Tablet found at Lachish (Tell el-Hesi). It is addressed to the Egyptian Commander-in-chief, and mentions Zimrida (Prince of Lachish, otherwise known from the Tell el-Amarna letters) and Abish-(?)yarami apparently a Canaanite prince who wrote the letter: but little more can be made of it at present.

THE HISTORY OF LACHISH.—From the depth of the accumulations Dr. Petrie considers that the town was probably founded in the XVII century B. C., thus corresponding to the beginning of the XVIII Dynasty,

\*Dr. Petrie estimated the average rate of accumulation on this site at 5 feet per century.





MOUND OF LACHISH

the age when Egypt began its foreign conquests, and when the Syrians would find the need of massive walls to resist the invaders. The remains of the Amorite walls are considerable. We know that the Amorite cities were almost deserted, and that rude huts of stones of the stream stood in the place of brick and stone work, and that the wind-swept desolation of the alkali burner's ground shows when even the barbarous dwellers had left the place. Of the time of the Judges there is no building to be traced. The first mention of the fortifying of Lachish is that of Rehoboam, in whose list of fenced cities it occurs. Dr. Petrie says that this wall dates from 970 B. C. It is not likely that David or Solomon would fortify places so near home; the Jewish kingdom had too much vitality in it than to need defenses in its midst; and it was not until the weakened power of Rehoboam laid him open to foreign invasion, that strongholds were needed within the country. The site was very likely inhabited, however, so soon as the kingdom was well



PILASTER

established. The slabs bearing pilasters in low relief are about the most important objects found at Lachish. They probably date from the time of Solomon and they show for the first time an example of early Jewish architecture. The elements of the form are of great value in estimating what Jewish architecture, and particularly that of the temple, must have been. We see on this slab at Lachish the earliest type of the Asiatic volute, and glean from its simple and primitive outline whence the origin of the form arose. The use of Ram's horns to decorate a pillar is much like the bull's skulls affixed by the Greeks to the architecture of their buildings.

The shaft of the pilaster is doubtless more sloping than would be the case in pillars, but it suggests that the pillars were greatly tapered in proportion; the original purpose of these slabs is not certain. They are to those of other architraves, what may have been the left halves, being only about 4 feet high, they are too short for a doorway by themselves. Altogether there seems no more appropriate use for these unilateral decorations than for the side of a doorway.



THE SIEGE OF LACHISH

This fine series of Sculptures from the ruins of Sennacherib's palace at Ninevah, now in the British Museum, represents the assault and surrender of Lachish [2 Kings xviii: 13, 14 and xix: 8]. It was a stronghold of the ancient Amorites which regained or retained its importance in the time of the Judean monarchy, having been fortified by Rehoboam [2 Chron. xi: 9; 2 Kings xiv: 19; Mic. i: 13]. It was one of the sites re-occupied by the restored exiles after the Babylonian captivity [Neh. ii: 30].

In the first portion of the bas-reliefs we see the "fenced city" on its "heap" [Jer. xxx: 18], its towers filled with archers and others who rain lighted torches upon the wooden cars under cover of which the battering-rams are worked, and upon the tall wicker screens; behind which bowmen and spearmen and slingers are assailing the defenders.\* Here and there are scaling ladders reared against the walls. From the principal gate captives are issuing; and in the immediate foreground two soldiers are in the act of impaling a youthful prisoner, side by side with his father and brother. It was an atrociously cruel mode of execution, practiced by the Assyrian kings on important captives, and still in vogue among the Turks until quite recently. Herodotus related that when Darius took Babylon, he impaled about 3,600 of the chief men of the city [iii: 139] (III.). In the second portion of the sculptures Sennacherib sits on his splendid throne of bronze and ivories, while his great officers present the prisoners from the fallen city. Above is the inscription.

Sennacherib, King of the World, King of Assyria, sat on a throne and caused the spoil of Lachish to pass before him.

\*Note the discharge of water from within the cars upon the battering-rams, apparently to prevent them from catching fire.





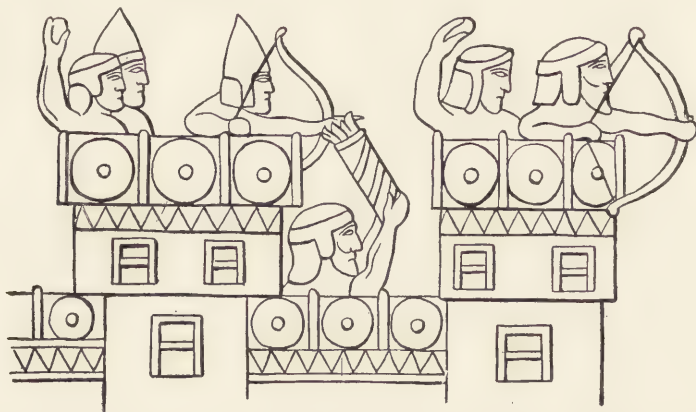
THE SURRENDER OF LACHISH

The victorious monarch grasps bow and arrows, speaking symbols of his warlike prowess and recent success [Gen. xlviii: 22; Isa. v: 28; 2 Kings xix]. Behind the throne stand two Eunuchs, holding fly-flaps over the King's head; and behind them is a large tent, over which is the inscription: "Tent of Sennacherib, King of Assyria."

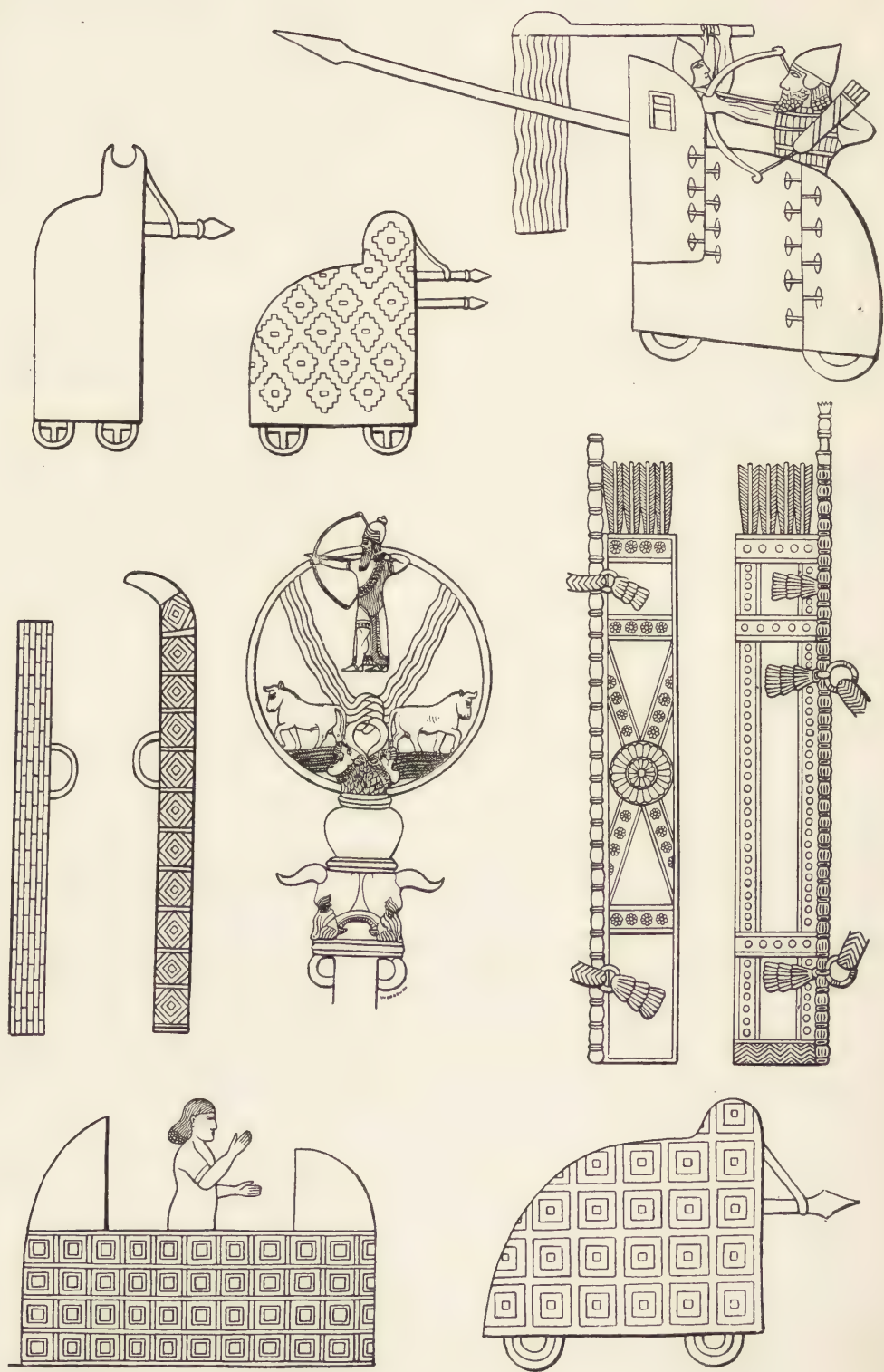
Below is the King's chariot with its attendants, one of whom carries a state umbrella; and on the left, some captives are being dispatched. Palms, vines and olives adorn the landscape. The distinctly Jewish type of face of the inhabitants of Lachish should also be noticed.

During his excavations Dr. Petrie discovered the steps and guard house of the great gate of Lachish, through which the prisoners are represented as passing to surrender.

The excavations of Tell el-Hesi thus far conducted give a most striking corroboration of the historical records of the Bible [See *Light from the East*, by the Rev. C. J. Ball, M.A.].



AN INHABITANT OF LACHISH HURLING A LIGHTED TORCH FROM THE WALL



ASSYRIAN MILITARY ENGINES, ROYAL STANDARD, MOVABLE SCREENS AND TENT



## ABDI-HIBA OF JERUSALEM TO THE KING OF EGYPT

[From the Tell el-Amarna Correspondence in which Lachish is mentioned.]

[To the Kin]g my lord [say thus: AB]DI-HIBA is thy bondservant, etc. (8 broken lines.) Let the King know that all the states have leagued in hostility against me; and let the King have a care for his territory.<sup>1</sup> Behold, the land of Gezer, the land of Askelon, and the city of L[achis]h gave unto them<sup>2</sup> food, oil, and whatever their need (was); so let the King have a care for<sup>3</sup> his territory,<sup>3</sup> and dispatch bowmen against the men who have done evil against the King my Lord. If there be bowmen this year, there will be territories and city-governors for the King my Lord; but if there are no bowmen, there will be no [territori]es and city-governors for the King [my] L[ord]. Behold, this land of Jerusalem,<sup>4</sup>—it was not my father, nor was it my mother that gave it unto me; it was the strong hand (or) arm<sup>5</sup> [of the King] that gave it unto me. Behold this deed, the deed of MALCHIEL and the sons of LABAIA, who have given up the King's territory unto the CHABIRI! Behold, the King my Lord is righteous towards me; as regards the KASHI,<sup>6</sup> let the King inquire of the High Commissioner whether they have dealt with a strong hand (or strongly fortified their positions) and brought serious evil to pass. (7 lines more or less broken.) Let the King inquire; they have abundant supplies of food, oil, clothing. When PA-URU, the King's High Commissioner, came up to the land of Jerusalem, ADAIA had revolted with the men of the guard (and?) the captain<sup>7</sup> of the King's (force)s. Let the King know, he (sa)id unto me, 'ADAIA<sup>8</sup> hath revolted from me; do not thou desert the city!' Send me guards this [year]; send the King's High Commissioner. Camels (?) \* \* \* \* \* many did I send unto the King my Lord; 5,000 Asir<sup>9</sup>-men (prisoners?) \* \* \* \* \* 5 porters.

The King's caravans were intercepted in the field<sup>10</sup> [i.e. territory of Ajalon]; let the King my Lord know I am unable to send a caravan to the King my Lord, that thou mightest learn (how things are). Behold, the King hath set his name upon the land of Jerusalem forever<sup>11</sup> and he cannot forsake aught of the territories of Jerusalem.

To the Secretary of the King my Lord say thus: ABIDI-HIBA is thy bondservant; at thy feet I fall; thy bondservant am I. Bring thou in unto the King my Lord plain words. A captain<sup>12</sup> of the King's am I. Much health to thee!

But should an evil deed have been done to the men of Kash, slay not an innocent man. The men of Kash are (or There are men of Kash) in my own house (or domain); let the King inquire \* \* \* [at the feet of my Lord] seven times and seven times [I fall]; let the King my Lord [hearken unto me.

<sup>1</sup>Joshua 10 : 33-34.

<sup>2</sup>Or, They (*the states*) gave unto them (*i.e. Gezer, Askelon, etc.*).

<sup>3</sup>Text: *The bowmen*; a clerical error.

<sup>4</sup>U-ru-ša-lim.

<sup>5</sup>The scribe has written the Babylonian symbol for *qātu*, hand, side by side with the Canaanite (Hebrew) term *Zerôa*, arm. Such glosses are an interesting feature of these letters.

<sup>6</sup>*i.e.* Cushite (Ethiopian) troops.

<sup>7</sup>u-e-u = Egyptian *uāu* captain.

<sup>8</sup>II Kings 22 : 1.

<sup>9</sup>Perhaps the Hebrew *ásir* prisoners.

<sup>10</sup>The Babylonian *Ugari* + the Canaanite *shatê* of Nehemiah 11 : 30; Judges 5 : 4.

<sup>11</sup>Deuteronomy 12 : 5, 21.

<sup>12</sup>U-e-wa = Egyptian *nāu*.

[Another Letter from Abdi-Hiba of Jerusalem to the King of Egypt, from the Tell el-Amarna correspondence in which Lachish is mentioned.]

To the King my Lord, [my] Sun, [say] thus: ABDI-HIBA is thy bondservant; at the feet of the King my Lord seven times and seven times I fall. Behold, the King my Lord hath set his name upon East and West. As for the slander which they have uttered against me, behold, I am not a city-governor (*i.e. native prince*), but a captain<sup>1</sup> to the King my Lord; behold, I am the King's Friend, and a tributary of the King's. It was not my father, nor was it my mother, but the King's strong arm that set me in my father's house (*i.e. established me in his territory*). [When \* \* \* the King's High Commissioner c]ame unto me, I gave 13 *asir*-men (prisoners?) and \* \* \* bondservants. Shûta, the King's High Commissioner, [came un]to me; I gave 21 bondmaids [and] 20 *asir*-men into the hand of Shûta as a present for the King my Lord. Let the King take counsel for his dominion. All the King's territory is going to ruin, having taken to opposition against me. Behold, the districts of *Seir*,<sup>2</sup> unto GATH-CARMEL<sup>3</sup> are leagued (*or* have made terms) with all the native princes (*chazzans*), and hostility is carried on against me because of the A-MI-RI-men (=A-mu-ri, *Amorites*?); and I cannot see the King my Lord's face,<sup>4</sup> because war is made against me. While there was a fleet at sea, the King's strong arm held the land of NACHRIMA and the land of KASH-SHI; but now the CHABIRU-folk have got hold of the King's cities. There is not a single city governor (*or* native prince) for the King my Lord; all are ruined. Behold, TURBAZU is slain in the gate of *Zelah*,<sup>5</sup> but the King disregardeth; behold, ZIMRIDA of *Lachish*, the bondmen were enraged at him, were for killing him. JIPHTAH-HADAD<sup>6</sup> is slain in the gate *Zelah*, but the King disregardeth \* \* \* Let the King have a care for his [territory, and let] the King give a look [to the men, and let him bring] bowmen to the territory [of the King my Lord; for] if there should be no bowmen this year, my Lord the King's entire territories are lost. People do not venture to say to the King my Lord's face that the King my Lord's territory will be lost, and all the native princes. If there are no bowmen this year, let the King dispatch an High Commissioner and fetch me and my brethren, that we may die with our Lord the King.

To the King my Lord's Secretary. ABDI-HIBA is thy bondservant; at thy feet I fall. Bring plain words in unto the King [my Lord]. I am thy [faith]ful bondservant.

<sup>1</sup>u-e-u = Egyptian *nāu*, captain.

<sup>2</sup>She-e-ri. Genesis 14 : 6.

<sup>3</sup>Ginti-kirmil.

<sup>4</sup>Text A.SHI, tears, instead of SHI, face.

<sup>5</sup>II Samuel 21 : 14.

<sup>6</sup>Cf. Jiphtah-el, Joshua 19 : 14.



## SOME ANCIENT RELICS OF THE ABORIGINES OF THE HAWAIIAN ISLANDS

BY DR. LORENZO GORDON YATES

EVER since their discovery by Captain Cook in 1778, the Hawaiian Islands have been objects of special interest to maritime nations from the peculiarity of their location and inhabitants, their volcanic wonders, and lastly, from their unprecedented advance in the scale of nations.

From being inhabited by a pagan, savage race, they have rapidly passed through the various phases of social and political life, from a feudal serfdom under the despotic supervision of a graduated chieftaincy; the petty despotic monarchies and principalities; the absolute, despotic and semi-religious monarchies; the limited or constitutional monarchy; the enlightened, representative form of republican government, until they have become a part of the territory of the United States of America.

No group of islands have had a more romantic history, nor been more prominently brought before the eyes of the civilized world than the Sandwich or Hawaiian Islands. Their government doubtless had many faults, but it presented an interesting and unique example of the social and intellectual evolution of an isolated people.

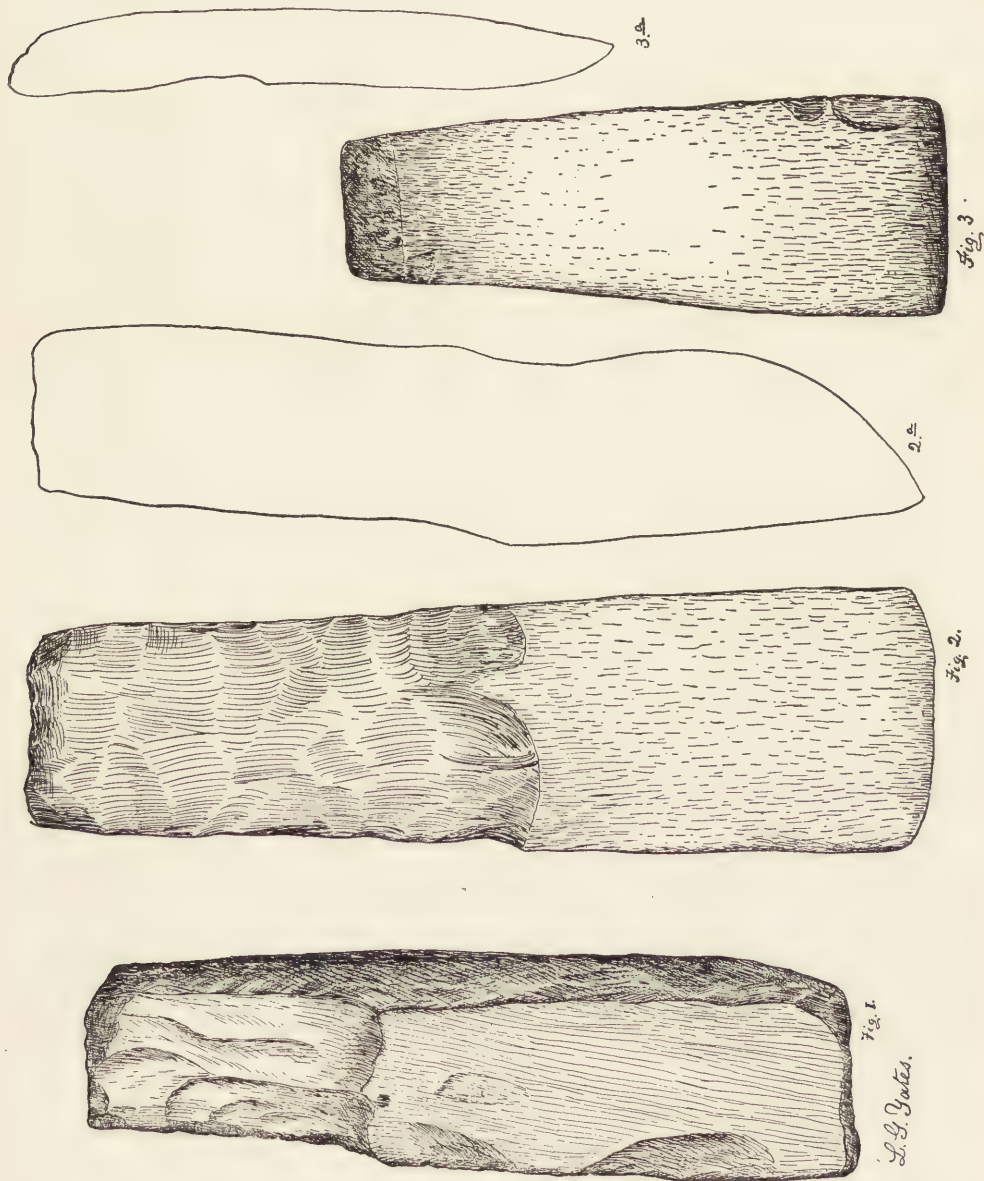
But the fates have ordained that the aboriginal race, like those of our continent, shall be absorbed and obliterated by a more advanced civilization, until nothing remains of their once numerous people save a meagre and mythical history, with some slight remnants of their child-like, ingenious, copious, expressive and poetic language, the most remote and isolated member of the widespread Oceanic or Malayo-Polynesian family which originated in Southeastern Asia.

Previous to the introduction of steamships, the Hawaiian Islands represented one of the most isolated regions of the world, and the farthest removed from the ancient centers of civilization, being more than 2000 miles distant from the nearest inhabited land. The eight inhabited islands of the group comprise an area of over 6000 square miles. They extend a distance of about 380 miles from northwest to southeast.

Hawaii claims the distinction of having the highest mountains of any islands, and the largest active volcanoes of the world—Kilauea and Mauna Loa—and few countries exhibit a greater diversity of surface and climate. The only quadrupeds existing on the islands at the time of Cook's discovery were hogs, dogs and mice. Trees of Koa, Kou, Lehua, Kauwila and others supplied an abundance of timber for useful and ornamental purposes. The principal food-plants were the taro (*Calocasia antiquorum*), sweet potatoes and yam.

The only fruits found on the islands were the bread-fruit, cocoanut, banana, Ohia (Malay Jambo), Ohela (wild strawberry), Poha (cape gooseberry) and the Akala (raspberry); sugar-cane was indigenous and grew luxuriantly. The principal tool used for cultivating the soil was the o-o, a stick of hardwood, pointed or having a flat blade.

A recent opportunity to examine some ancient relics of this people, which were obtained some years ago by Dr. Bailey, who practiced medicine on the islands for a number of years, enables me to illustrate and describe

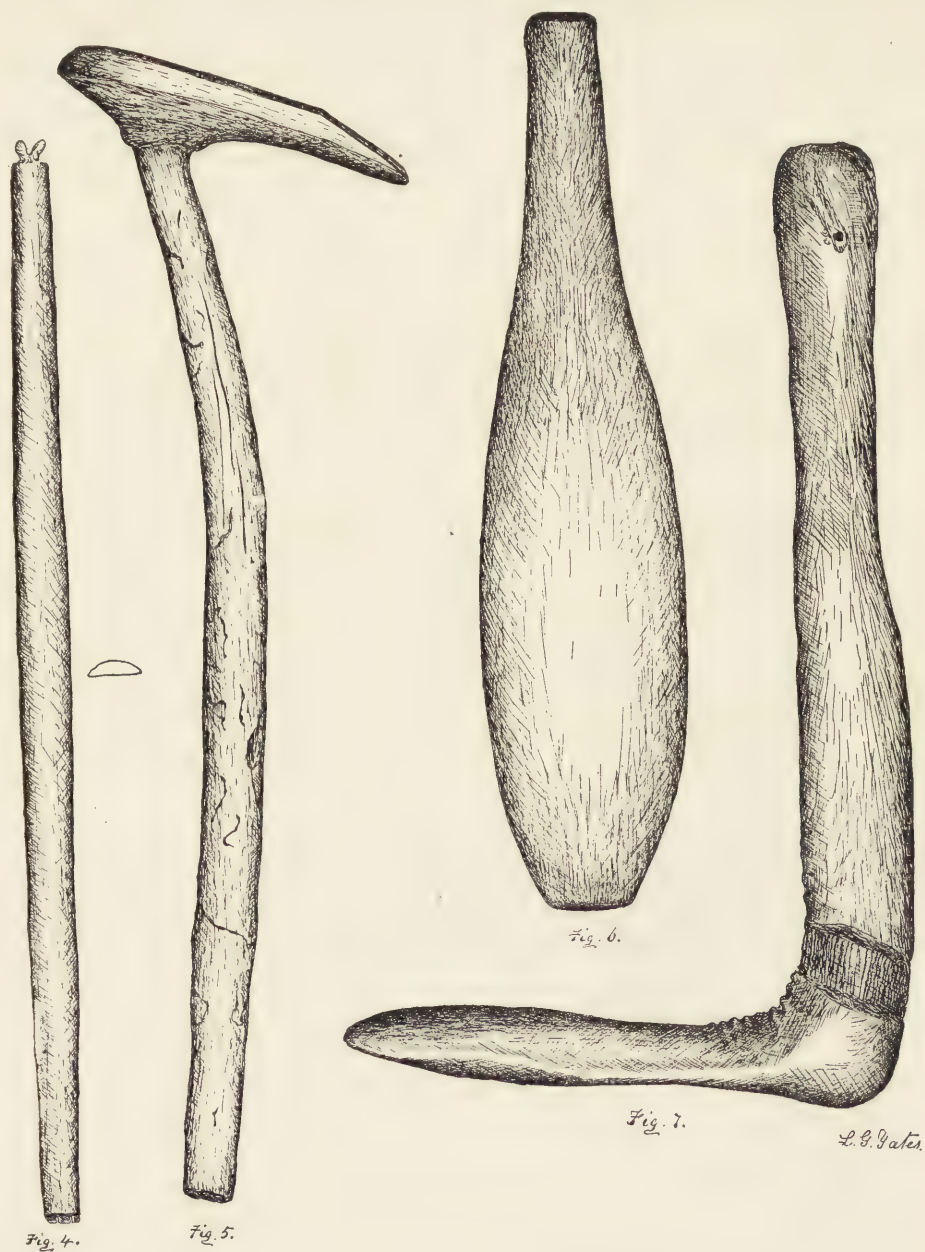


some of the implements which were used by these Islanders in ancient times, and to note some items of interest in relation to their manufacture and uses.

Their cutting tools were made of stone, of shark's teeth, or of bamboo. Axes and adzes were made of hard compact lava rock found on the summits of Mauna Loa and Haleakala. The adzes, of which Figs. 1, 2, 2a, 3



and 3a are illustrations, were attached to handles by vegetable fiber. One of these handles is represented by Fig. 5; it is 18 inches long and was in-



tended for a much smaller tool than those represented in the illustrations. The collection from which I made the illustrations contain a number of smaller implements of the same character, all of them showing evidence of great age. The tool represented by Fig. 1 is 12 inches in length; Fig. 2, 9½ inches. The art of making these stone implements was handed down

from father to son, and a few individuals only were employed in their manufacture.

By the use of these adzes circular wooden dishes were made from the wood of the Kou, a large shade tree growing near the sea-beach, which takes a fine polish. The adze was also the principal tool used in making canoes, in which the aborigines were very expert. Canoe-making was accompanied by ceremonies. They were hollowed out of a single log, and strips of hard wood were sewed on the upper edge, closing over the top at stem and stern; they were steadied by an outrigger called *ama*, made of a light wood called Wiliwili (*Erythrina corallodendron*), and fastened to the canoe by curved cross-pieces called *iako*. The sails were of triangular mats. The Wiliwili seeds were used for making necklaces.



Some of the ancient canoes carried from 100 to 150 people, and must have been remarkably seaworthy to enable them to make the long sea voyages they accomplished, for not only were the different islands in close communication with each other, but voyages of thousands of miles were made. The fact that they voyaged to and from the Fijis, Samoas and other far distant islands is well established.

They had many methods of catching fish—by spearing, by baskets, by



hook-and-line, by poisoning, and by the use of nets. Their fish-hooks were made of bone, mother-of-pearl [see Fig. 9] and of tortoise shell; the spearing was practiced by torch-light in shallow water. A handsome cowrie shell (*Cypræa mauritiana*) was used to attract the *hee* or squid. Their nets were made of twine made from the bark of Alona (*Touchardia latifolia*) and were in great variety of sizes and patterns; the floats were of Wiliwili wood. Sometimes long ropes having dry leaves of the Ki (*Cordyline terminalis*) braided in them were used to drive the fish into the net. Fig. 18 represents a net-sinker of basalt.

The nuts of the Kukui or Candle Tree (*Aleurites moluccana*) were baked in an oven and shelled, the kernels were strung on strips of bamboo or of the cocoa-nut leaf, and used as candles or torches. Fig. 16 represents an ancient stone lamp used for lighting, which, from its peculiar shape, may be turned so as to throw the light in any direction required. Stone lamps were also used with Kapa wicks and Ku-Kui, or fish oil. Strings of Ku-Kui nuts used for torches were called I-po-i-ho-ku-kui.

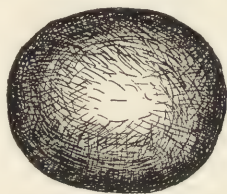


Fig. 10.



Fig. 11.



Fig. 12.



L. G. Yates.

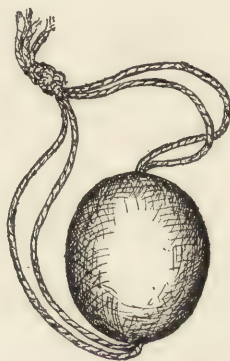


Fig. 13.

The Hawaiians are noted for their love of flowers and other ornaments. The i-li-ma (*Sida fallax*) was extensively cultivated for its brilliant yellow flowers. The Hibiscus is also used for making *leis* or wreaths for the adornment of the person. The term *lei* is applied to any external ornamental work. The fruit of the hala (*Pandanus*) was used for making coronets and necklaces. The fruits are fragrant and of a handsome orange color. Their bracelets, ku-pee, were of shell [Fig. 12] or of ivory [Figs. 10 and 11], and were fastened on the back of the wrists by strings which passed through holes in the ornaments. The seeds of a species of acacia or *cæsalpina* (the *Roa*) were strung upon thread and made up into a great variety of ornaments. The nuts of ku-kui, after being buried in wet ground to give them a black color, were carved and polished for ornamental purposes. The bark of the root of this tree was used for coloring their canoes black.

The rounded ivory bead lei-poo [Fig. 13] was worn by the chiefs during mourning ceremonies as distinctive badges, as was also the niho palaoa, a hook-shaped ornament made from the tooth of a sperm whale

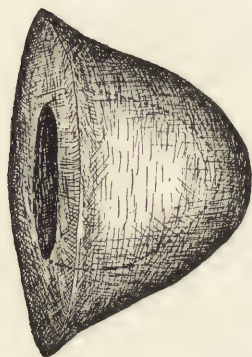


Fig. 16.



Fig. 18.

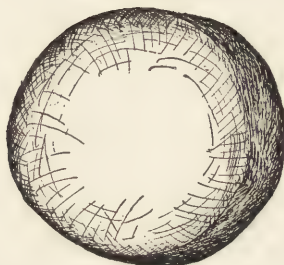


Fig. 17.



Fig. 15.



Fig. 14.

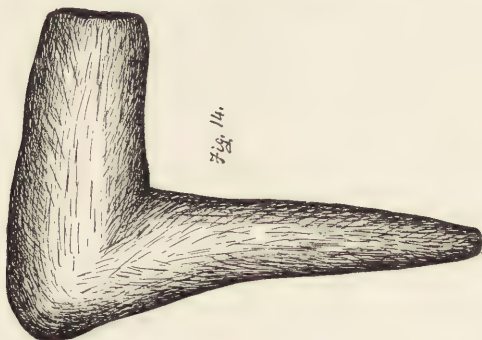


Fig. 13.



Fig. 12.



or walrus; it was suspended around the neck by a necklace composed of a large number of small cords or braids made of human hair. None but the chiefs were allowed to wear them. The chiefs also wore feather cloaks and helmets on state occasions.

The helmets were made of wicker-work covered with the yellow or scarlet feathers of certain birds, the o-o, the ma-mo, and the iiwi. The cloaks, ma-mo, were costly insignia of rank; that worn by Kamehameha I. is said to have occupied nine generations of kings in its construction. The ground-work was a fine netting of olona or native hemp (*Touchardia latifolia*), to which the small, bright yellow feathers of the o-o (*Acrubocercus nobilis*) were attached.

The cloaks reserved for royal persons were made of the feathers of the ma-mo (*Drepanis pacifica*) which is nearly extinct. The birds were caught by means of a sticky gum, *papala*, which was smeared upon branches of trees which they frequented.

Fig. 8 represents a sandal made of the leaves of the cordyline, or of the canna, and were worn to protect the feet when searching for mollusks or fish among the rocks and coral. They are almost identical with specimens found in caves in Arizona, except that in the latter the material used was the leaves of the Tree Yucca.

Fig. 17 represents an ancient stone used in playing the game called mai-ka. The stone is a highly polished disk about three inches in diameter; it was called ulu. For playing the game a ka-hu (prepared ground) or level track about 3 feet wide and half a mile long was made smooth and hard. In this track two short sticks were fixed in the ground a few inches apart at a distance of 30 or 40 yards. The game consisted in either sending the stone between these sticks, or in seeing which party could bowl it farthest. It is said that one of their best players would bowl the stone upwards of a hundred rods.

Among the ancient Hawaiians musical instruments were few and simple, being used principally to beat time. Fig. 4 represents a U-ke-ke, or harp, made of a strip of flexible wood; they were also made of bamboo and had either two or three strings of Alona, or of cocoanut fiber, and were tuned to intervals of a second or fourth. They also used the Ki-o-ki-o, which was made by piercing three holes in a small gourd; one was placed against the nose to blow through, the others were for the fingers. Another form of nose-flute was made of a joint of bamboo with the nose-hole on one side, and the two finger-holes near the other end. The instrument players were called hoo-kio-kio. They also used drums of sections of cocoanut tree with one end covered with shark-skin. Smaller drums were made of cocoanuts (pumio), and another made by placing two gourds together.

They had no circulating medium representing money. Certain districts were noted for the superiority of some article of utility or ornament, such as stone axes and adzes, canoes, kapas, mats, etc., which they exchanged with the inhabitants of other districts.

Fig. 6 represents a rare form of kapa pounder.

The principal crop was the taro or kalo, but sweet potatoes were raised in the dry districts, and yams in Kauai and Niihau. They also cultivated sugar-cane, bananas, calabashes, gourds, wauke, or paper-mulberry, for its bark, and the awa (*Piper methysticum*) for its narcotic roots.

The Hawaiians were adepts in the art of surgery, and used many of their indigenous plants and herbs to advantage in the practice of medicine. Massage treatment was extensively practiced. Fig. 7 represents an instrument which was used for pressing and rubbing the body by the individual; it has the appearance of having been used for many generations.

Fig. 14 represents an ancient pipe of sandal wood, called *he ipu baka*, literally, a vessel to smoke in. Their pipes were of various forms and of different materials. Figs. 15 and 15a, a Japanese pipe from the islands, the tobacco-pouch of dried orange peel, case of bamboo.

At the death of the king the whole district was considered polluted for ten days, so that the heir to the throne was obliged to remove to another district and remain there during the *tabu* period; at this time human sacrifices were offered to the gods, and also that the King might have attendants to accompany him.

The deified bones of the chiefs were generally carefully concealed in the most secret and inaccessible caves; in some cases, however, the bones were deposited in a temple as objects of worship. Those of many of the ancient kings were deposited in a cave at the head of the Iao Valley, Wailuku, and some were thrown into the crater of Kilauea, under the impression that their spirits would be admitted into the society of the volcanic deities. In some cases the bones and belongings of the dead were let down by ropes over the face of a perpendicular bluff and deposited within some of the numerous caves and the rope cut, allowing the depositor to fall to the bottom and be killed, thus taking his secret with him. At other times inclined excavations were made in the rocks, the bodies slid down into the excavated chamber and the opening closed by rocks and sand. On some of the islands the royal tombs are still guarded by the natives, who use their utmost endeavors to prevent the desecration of the graves of their dead heroes.

\* \* \* \* \*

### CUSHING'S ZUNI FOLK TALES

BY DR. F. W. HODGE

THERE are few students whose studies into the "records of the past" began in early childhood, but such was the case with the late Frank Hamilton Cushing, whose charming collection of *Zuni Folk Tales* has just been published.\* His interest in the Indians, of whom he later became a Priest-chief, began when he was barely old enough to follow his father's plowman, who one day brought to light a glistening flint. Asking what it was, the rustic replied, "It's an arrow, the Indians made that!" Question after question was plied by the boy and a new light dawned on his hitherto limited field of vision. Later he made for himself an Indian costume and in the woods bordering his father's farm, he constructed a wigwam, in which he chipped arrow points and made shafts and bows and became a veritable young Indian. He exhausted his father's library in quest of knowledge and as his horizon broadened, made pilgrimages afar

\**Zuni Folk Tales*, Recorded and Translated by FRANK HAMILTON CUSHING, with an Introduction by J. W. POWELL. New York and London: G. P. Putnam's Sons, The Knickerbocker Press, 1901, 8vo, pp. xvii, 474, illustrated.



which sometimes consumed many days—just as an Iròquois of his home county of Orleans, in Western New York, might have done a century before.

Young Cushing's interest soon extended to Geology, and at one time, while roving the country communing with Nature, he espied a beautiful trilobite in a boulder near the gateway of a Cazanovia homestead. Young Cushing entered and requested a gentleman whom he saw to lend him a hatchet. Asked why he wanted it, the boy told his new-found host that he wanted to chop out the trilobite in the gate stone. He was promptly informed that the boulder had been conveyed for many miles to the spot on account of its interest as a geologic specimen, but the kindly man informed the young student that he would guide him to the place where others might be obtained.

This incident was the beginning of a life-long friendship between Cushing and the late L. W. Ledyard and it was through the latter that the attention of the late Spencer F. Baird of the Smithsonian Institution was directed to the promising youth. Cushing entered the service of the Smithsonian in 1875 as an assistant to the archæologist, Dr. Charles Rau, and in the Centennial year he was placed in charge of the archæological collections of the Institution at the Philadelphia Exposition. In the autumn of 1879 he was assigned to the newly-organized Bureau of Ethnology under Major J. W. Powell and accompanied an expedition under Col. James Stevenson to the pueblo of Zuni, New Mexico, where he was left at his own request, remaining until 1884. During this period of nearly 5 years, Cushing studied the Zuni language until he conversed in it with the fluency of a native; he was adopted into the tribe, was initiated into the sacred order of the Priesthood of the Bow and performed rites and ceremonies as a member of the tribe. He studied their myths and folk-tales, their complex system of religion and their social organization, acquiring knowledge of a primitive people such as probably had never been gained before.

In 1883 Cushing conducted 5 principal Zunians to the Atlantic coast in order that, among other reasons, they might replenish their supply of water from the sacred "Ocean of Sunrise." In 1886 three Zunis were brought to the east as the guests of the late Mrs. Mary Hemenway of Boston and the interest aroused in that noble patron of American Ethnology, during the previous pilgrimage of the Zunis, now resulted in the organization of the Hemenway Southwestern Archæological Expedition with Mr. Cushing at its head. The important collections made by this Expedition are now deposited in the Peabody Museum of Harvard University; but space does not permit even a cursory view of the results accomplished during the 2 and a half years of research in the southern Arizona and in western New Mexico under Mrs. Hemenway's liberal support.

During the summer and autumn of 1886, at Mrs. Hemenway's summer home at Manchester-by-the-sea, many folk-tales were related by the three Zunis, Pah-lo-wah-tiwa (who died in January 1901), Waihusiwa, and Heluta. As they were repeated, Mr. Cushing interpreted them and his words were recorded by a stenographer. It had been Mr. Cushing's intention to annotate the manuscripts; but time went on, Cushing's work was diverted into other channels and the tales remained, as at first transcribed, up to his death in April, 1900.



FRANK HAMILTON CUSHING



About a year ago a committee of well-known anthropologists was organized for the purpose of devising means for the publication of 33 of the folk-tales, with the speedy result that sufficient advance subscriptions were guaranteed to warrant the committee in proceeding with the work which has now appeared.

To give even a summary of the tales would consume more space than can be allotted here; nor would anything short of careful perusal give an adequate idea of their ingenuity or of the light which they shed on the workings of the primitive mind. A celebrated anthropologist, well familiar with ethnologic literature, has said of them that "there may have appeared somewhere a more meritorious collection of Indian legends than this; but, if so, it has not been my good fortune to see it." There is little question that it forms the most noteworthy collection of Indian folk-tales ever published—not because the mind of the Zuni is more capable of myth-invention than that of other Indians, for some of the tales (for example, that of the opening story of "Trial of Lovers, or the Maiden of Matsaki and the Red Feathers") are current among other Southwestern aborigines,—but because they have been transcribed with a Zuni familiar with and who possessed the rare knowledge and the imaginative instinct so essential to a correct interpretation of the subtle thoughts of an imaginative people.

The tale cited reminds one so forcibly of the Greek legend of Orpheus and Eurydice that one not aware that the plot is quite a common one among Indian myth-makers would be prone to regard it as a result of contact with civilizing influences. Such, however, is not the case. Many Indian legends will bear favorable comparison in ingenuity of conception with the lore of people much farther advanced in culture, as witness, in addition to that of the "Red Feather," the beautiful Zuni story of "The Foster-child of the Deer," and of "The Maiden of Matsaki the Sun made Love to and her Boys, or the Origin of Anger." It would be difficult to find greater originality in the lore of people whose culture is even a degree above that of savagery.

Naturally the majority of the collection consists of animal tales, for among the Zunis beasts are deified beings, and almost the whole Zoic world of Zuni forms the cast of characters in his folk-lore. The coyote is the most prominent performer, and he assumes the part of a clown in every case, while the owl, much as in our own lore, possesses the wisdom of a shaman. Ahaiyúta and Mátsailéma, the Twin Gods of War and Chance, appear frequently in the tales; indeed, several of them are based on the marvelous exploits of these now beneficent, now maleficent beings.

But, as previously mentioned, even a bare summary of the scope of the tales is not now possible, for they are largely a revelation of savage philosophy; they embody more or less of every custom and every art, the daily life and thought, of a primitive people of whom we have heard so much yet have known so little,—and all pertaining to a time before knowledge of the white man came to them. For, be it said, there is nothing in the tales which suggests contact with civilization. The white man forms no part of the *dramatis personæ*, nor do horses, donkeys, cattle, sheep, swine, wheat, or other products of the advent of the Caucasian enter into consideration.

The book is prefaced with a thoughtful introduction by Major J. W. Powell, who informs us of the origin of folk-lore and of the place which it occupies in anthropology.

## Notes

THE ARCHÆOLOGICAL WORLD has suffered an irreparable loss in the total destruction by fire of the Monastery of St. Paul on Mount Athos. Not only the building but all its contents were destroyed. This monastery contained many objects of great legendary interest but was specially celebrated for its library which was rich in original documents of the Byzantine Emperors and illuminated manuscripts. The art treasures were of scarcely less importance than the library, for many of the highest types of Byzantine paintings were preserved in the monastery.

A NUMBER OF FINE FRAGMENTS of sculpture have been brought to light by Dr. Mendel, who, in connection with the French School at Athens, is carrying on the excavations commenced by Dörpfeld and Milchofer upon the site of the temple of Athena Alea at Tegara in Arcadia. Among these fragments are: A boar-hunt described by Pausanias in his Itinerary where he mentions Scopas of Paros as the artist; the torso of a woman which Dr. Mendel thinks belonged to the Atalanta; and a beautiful well-preserved head attributed to the statue of Hygeia which according to Pausanias was next to that of Athens.

CLAY TABLETS CONTAINING LETTERS, PSALMS, contracts, and vocabularies have been brought to light in Babylon where the German Society for Excavation in the Far East is working near the modern village of Dschumd-schuma. Dr. Weissbach is the Assyriologist of the expedition and feels confident that these tablets will add greatly to our knowledge of the Old Testament and its language. They also expect to resume work at the hill Amran-ibn-Ali. Near Nippur they are preparing to excavate the hills of Fara and Abu Hatab. It is thought that these ruins will prove to date back earlier than 4,000 B. C., into the pre-Sargonic period. These numerous excavations in Babylonia, together with those of the American Society at Nippur will doubtless fix definitely many of the dates and historical facts connected with this ancient center of civilization.

LAKE DWELLINGS: Extensive remains of prehistoric lake dwellings exist in the bed of the River Save, near Dolina, in Northern Bosnia, which fall in no way behind the better known remains in Switzerland. The excavations made during the year now ending have surpassed all expectations in regard to the wealth of material obtained for the Bosnian Museum, at Sarajevo. Four dwelling houses built on piles—three of which are well preserved, while one has been buried—have been laid bare, as well as the burying place belonging to the settlement, containing a number of fine bronzes and urns. Numerous products of the potter's art, utensils of staghorn, weapons of bronze and iron, ornaments of bronze, silver, gold and amber, seeds and bones compose the chief discoveries made so far. The results of these researches have a special value, in that they have determined the architectural construction of the pile dwellings with an accuracy which has seldom been attainable.

One of the most valuable discoveries is a boat five metres long, hollowed out of the trunk of an oak. This was found lying nine metres below the platform of a pile dwelling, and must have lain there nearly 3,000 years. The work of digging out this unique object, which can be matched in no museum of Europe,



took 6 days, and was so successfully carried out that the boat was brought uninjured to the Saravejo Museum. The pile dwellings of Dolina belong to two different periods, and were in existence during the Bronze and Iron ages throughout the first millennium before Christ. They were probably destroyed by a sudden inundation in the III century B. C.

AN EGYPTIAN INSCRIPTION which is believed to be a most important piece of evidence of how prepared the popular mind in Egypt was for the reception of Christianity in the land of the Nile immediately before the advent of the "new religion," and one which "accounts in a large degree for the rapid hold it gained on the people of the land," is now in the collection of Lady Meux of Theobalds Park, Herts, England.

The monument is the funeral shell or tablet of an Egyptian lady who lived late in the Ptolemaic age. The inscription was found at Ekhnim, the ancient Apu, or Panopolis, a city that was one of the earliest and most important seats of Christianity in Egypt. The tablet gives little information about the lady Ta-hebt (Festina) and the lady Khrat-Amsu (Daughter of Amsu), but the upper portion of the shell is decorated with sculptured scenes of the solar boat and the deceased worshipping Osiris. This is followed by the usual funeral formula, and then comes "one of the most beautiful prayers yet found on Egyptian monuments, and one which shows how deeply imbedded in the hearts of the people was the belief in immortal life—that life finding its most full expression in the never-dying Sun":

"Ta-hebt prayeth to her lord of Eternity saying: Hail to the Horns on the Horizon the Self-Created one, Thou art indeed doubly beautiful when thou shinest on the horizon, thou makest bright the earth with thy beams, and the gods shout with joy when they behold thy beams. Let me come forth to meet thee; let me behold thy beams and gaze upon thy beautiful beams. I have come to thee, for I would be with thee, and I would gaze on thy disk every day. I am one of those who worshipped thee on earth. O let me pass to the land of eternity and to region of everlastingness. Guide thou me, O Ra, and do thou give me the sweet breath of life."

A series of passages are then given as expressing the lady's mind:

"All my life since childhood I have walked on the path of God. I have praised and adored Him, and ministered to the priests, His servants. My heart was true. I have not thrust myself forward. I gave bread to the hungry, drink to the thirsty, clothes to the naked. My hand was open to all men. I honored my father and loved my mother; and my heart was at one with my townsmen. I kept the hungry alive when the Nile was low." Thus stating the doctrine on which this lady based her hope of eternity.

PROF. HENZ of the St. Petersburg Zoological Museum, who discovered last September near the Ebrosowka, Siberia the remains of a mammoth states in a recent letter sent from Snedni Salymask, Siberia, that the mammoth is on the road to St. Petersburg on a 100-pack sledge escorted by a troop of Cossacks, and will probably reach its destination about the first of May. It is undoubtedly the most perfect specimen ever recovered. He describes his great *find* as follows:

"Above all, it is all there; for, while the bears and wolves tore some of the minor bones from their moorings, they were powerless or unwilling, to carry them off. I am certain I got away with all the bones, being more fortunate in that respect than Mr. Adams, whose fossil mammoth, now in the Imperial Museum, lacks one hind foot. Aside from the bones, I collected enough of the flesh and coat to allow the most thorough scientific investigation. I believe that it is the most perfect specimen of fossil flesh and skin ever shown in a scientist's laboratory, and after our authorities have passed on it we will be able to decide, approximately at least, whether the story that the Alaska Indians greased their boats with mam-

moth fat attached to a skeleton found on the bank of the Yukon, can be credited or not. I say right here that it is not impossible, even though I found no traces of fat on or about the carcass I dug up myself.

"I secured large portions of the skin of this monster, aside from that attached to the one perfect leg—the fragments show that the creature was so clothed as to be able to withstand the utmost cold—that does away with the theory that the bones were swept to this place by the deluge. The hairy coat is extremely thick, thicker than that on the neck of a bull buffalo. Its average length is seven inches, but the mane must have been five or six times as long. It is thicker than horse hair, of dark brown color, lighter at the hoofs. At that point, too, it grows luxuriously, as is sometimes the case with horses of coarse breed.

"The hair described belongs to the outer coat and is stiff and wiry, calculated to throw off wet and wind. Under this grows a wool, very closely, and from five to ten centimeters thick. Like the covering of a young camel, the wool is of a light yellow color. It would be impossible for an animal so protected to feel even the extremest cold.

"Up to now we had absolutely nothing to guide us in searching for the period when the mammoth became extinct, particularly as regards Siberia and North America, where the theory that this giant was exterminated by early man, obviously doesn't apply, as in both hemispheres there were, and are, vast territories never trodden by man's foot. I am now inclined to think that the mammoth perished of starvation, when overtaken by a period of ice and flood. This, however, did not happen to my mammoth, as we will presently see.

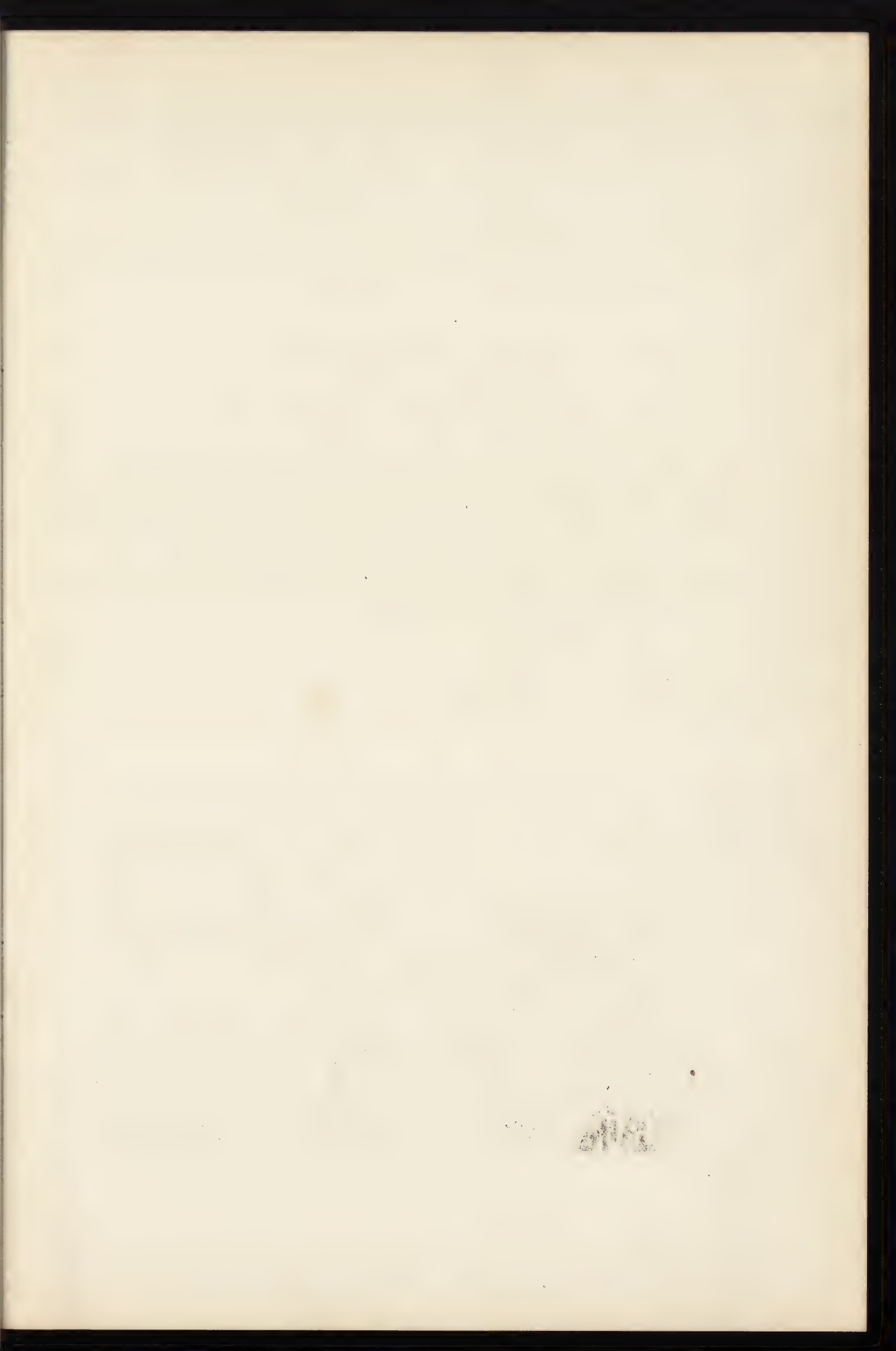
"As already stated, foxes, bears, and wolves relieved me of the necessity of carting away the greater portion of flesh and skin, but, happily, they left the stomach undisturbed, permitting me to secure this important organ intact. Seeing that, curiosity got the best of me—I couldn't resist the temptation to investigate. Let scientists rejoice; the stomach is full of undigested food—now we will learn positively whether or not the mammoth could live in prehistoric Siberia, Europe, and North America. The food in the stomach will settle the question once and for all. It is very considerable in quantity, and more is found on the tongue and between the teeth.

"My mammoth undoubtedly died during the pleasant occupation of feeding. He probably rolled off a precipice while reaching out for a coveted branch or plant, the position of his forelegs shows that almost to a certainty. The left one is bent into a semi-curve, indicating that the ponderous and unwieldy animal tried in vain to climb upward, while his right foot was struggling to maintain a hold, but the soil or rock, presumably, was slippery or too steep to afford a safe foothold for so large a beast. In gliding down the mountainside, the animal's hind legs were forced into a horizontal position and got under his body, which circumstance made it completely impossible for the mammoth to raise himself by his own efforts.

"The impromptu grave into which the animal plunged was made of sand and clay, and his fall probably caused masses of neighboring soil to loosen and cover him completely. This happened in the late fall, or at the beginning of winter, to judge by the vegetable matter found in the stomach; at any rate, shortly afterward the grave became flooded, ice following. This completed the cold storage, still further augmented by vast accumulations of soil all around—a shell of ice, hundreds of feet thick, inclosed by yards upon yards of soil, that remained frozen for the greater part of the year. Thus the enormous carcass was preserved for how long no one knows.

"As to measurements, exact figures cannot be given at the present time. I am inclined to think that my mammoth, when mounted, will exceed in height the most famous specimens known, that at St. Petersburg and the other in Chicago. The first measures 9 feet 3 inches, the latter 9 feet 8 inches."







ADENA MOUND



ADENA MOUND AFTER FIRST 5 FOOT CUT. (FIG. 2)



# RECORDS <sup>OF</sup> THE PAST

MAY, 1902

VOL. I



PART V

## EXCAVATION OF THE ADENA MOUND

BY PROFESSOR WILLIAM C. MILLS, B.SC.

THE Adena mound, so named by Governor Worthington, and owned by his estate until a few years ago, was thoroughly excavated by the Ohio State Archæological and Historical Society under the direction of its Curator, during the summer of 1901. The mound is located  $1\frac{1}{2}$  miles from the northwestern part of the city of Chillicothe, in the valley of the Scioto River. Standing upon the summit of this mound one could see, looking directly to the north, the noted Mound City, so named by Squier and Davis, and examined by them in 1846. The name "Mound City" was given to this group of 26 mounds embraced in one enclosure, square in outline, and comprising upward of 13 acres. In some respects this was the most remarkable collection of mounds in the Scioto Valley. About all of the mounds in the enclosure were examined by Squier and Davis and the principal ones were found to contain altars which were considered by them to be places of sacrifice. Looking to the south the Chillicothe group of mounds could be seen, which were examined by Fowke, Moorehead and others. The mounds of this group resemble in form Adena mound, but are smaller in size. Directly to the east could be seen the Scioto River, and to the west is the large hill upon which is located the mansion called Adena, which was the home of Governor Worthington. Near the mound, and at the foot of this hill, is Lake Ellensmere, which played a very important part in the construction of this mound. Directly to the south and about 100 yards distant two small mounds are located; these have never been examined but have been cultivated over, ever since the land was cleared. In 1798 when Governor Worthington came to Ohio, he purchased the land upon which this mound was located, and it has since been owned by the heirs until

*Editorial Note.* At our request Prof. Mills, the Curator of the Ohio State Archæological and Historical Society, has given a detailed account of the examination of this mound, in which we think the public will be interested, on account of its being the largest one thus far excavated. We are indebted to Prof. Mills and the Society for the photographs and drawings with which it is illustrated.

a few years ago, when it was sold to Mr. Joseph Froehlich. Consequently, the mound had been preserved for more than 100 years. In the course of time the present owner found that it was quite an expense to keep this mound in a good condition, and as it occupied a large tract of fine alluvial bottom land, which was valuable for agricultural purposes, he decided upon its complete removal. On the 21 of June a contract was entered into with Mr. Froehlich to remove this mound, the greater part of the soil of which it was composed, to be placed in a cut made by the B. & O. Railroad, which is perhaps 50 yards away. The mound, at the time work began, was 26 feet high, measuring from the south side, 26 feet 9 inches measuring from the north side; with a circumference of 445 feet. The north side of the mound was covered with an undergrowth of small trees and briars, making it almost impossible of ascent, while on the south side it was not so densely covered and a path was easily made to the top, where the work began. Until last year the mound was covered with a growth of trees each ranging in diameter from 6 to 18 inches, but these had been cut down and taken away by Mr. Froehlich, preliminary to the removal of the mound.

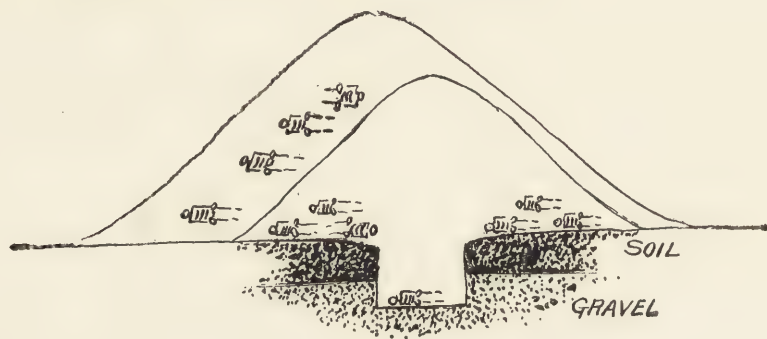


FIGURE I.

The outer surface of the mound was covered with a leaf mould from 3 to 7 inches in thickness. As work progressed upon the mound it was discovered that it had been built at two different periods. The first period represented the original mound, which was 20 feet high with a base diameter of 90 feet, being composed almost entirely of dark sand, which was no doubt taken from the small lake near by, known as Lake Ellensmere. The second period shows the enlargement of the original mound on all sides. On the south side the mound was only covered with a few feet of soil, while on the north side the base was extended more than 50 feet; this enlargement was carried up the side of the mound changing the apex between 12 and 15 feet. This is shown in Fig. 1. The soil of the second period differed very much from that of the first; while the first was composed almost entirely of sand and was of a dark color, the second part of the mound was composed of sand of a lighter color mixed with the soil of the surrounding surface. In some places the sand was entirely absent, while in others very little soil was mixed with it.

The mode of burial in the first period was far different from that in the second. In the original mound no burials were found until within 5 feet of the base line. The body at the time of its interment was enveloped in bark or a coarse woven fabric and then enclosed in a rude sepulcher made



of timbers, ranging in diameter from 3 to 17 inches. The sepulchers varied greatly in size; those above the base line were made by placing logs on each side of the body with a covering of small logs placed over the top. The sepulchers placed on the base line were usually made of a framework of timber, which had long since decayed away but the cast of which was still retained in the hard sand; this enclosure of timber, measured from outside to outside, was usually from 8 to 9 feet in length, and from 5 to 7 feet wide, and from 18 inches to 2½ feet high. They were constructed from unhewn logs lain one upon another, and were then covered over the top with logs that were smaller than those at the sides and ends. After a period of time these logs would decay, and the superincumbent earth drop into the grave. With the sides and ends supported but no support in the center this would naturally form an archway of earth, which was clearly defined at the time the mound was opened. In a number of instances the loose earth was removed from the sepulchers disclosing large rooms, some of which were 10 feet long and 7 feet wide, with an arched roof, being high enough for a man to stand upright in them. In the second period the burials were much different, no sepulchers were prepared for the dead and not one of the skeletons was covered with bark, and only one showed any trace of a woven fabric, this being preserved around a copper bracelet.

The skeletons in the first period were much better preserved than those in the second; this was caused by the protection afforded the body, at the time of burial, by the sepulcher.

In the outer mound skeletons were found from the top to almost the bottom, while in the original mound the skeletons were all found within five feet of the base line and below. However, the implements and ornaments found in both sections of the mound were similar in every respect, but were more abundant in the first period than in the second. In the first period implements and ornaments were found with all the sepulcher burials, with but one exception, which will be noted later. In the second period quite a number of skeletons were found, that had no implements or ornaments of any kind placed with them.

The mound was removed in 5 foot sections, commencing at the top. In the first section, which includes the apex of the mound, we expected to find intrusive burials, but in this we were disappointed. The earth was carted to the north side of the mound in wheel barrows and thrown down its sides. In the second section a winding cut was made up the side of the mound, so that teams could remove the dirt, which was done by the use of wheel scrapers. The soil was loosened with picks, and the earth carefully examined. It was then shoveled back so wheel scrapers could carry the dirt away. Whenever a grave was discovered, competent men were placed at work to remove the dirt from around it with small hand trowels. All the skeletons were photographed in place with the implements and ornaments found with them. All changes in the structure of the mound were also photographed. A total of 33 skeletons was removed from the mound, 21 occurring in the first period, or the original mound, and 12 in the second period.

#### FIRST SECTION

The first 5 feet of the apex of the mound was composed of soil taken from the surface surrounding the mound. The soil was first loosened by picks and then loaded upon wheel barrows and carted to the north edge of



FIGURE 4.



FIGURE 6.

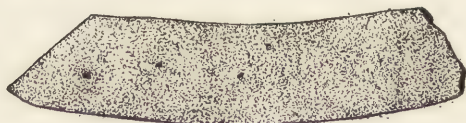


FIGURE 7.



FIGURE 5.



FIGURE 9.



FIGURE 8.





FIGURE 3.

the mound where it was thrown down the side. This section was carefully examined for intrusive burials but none were found. Five feet from the edge, and almost on the east line of the cut, was found a chipped hoe, 5 inches in length, and  $1\frac{3}{4}$  inches in width, which had evidently been lost by the builders of the mound as nothing was found near it to indicate that it had been placed there intentionally. Near the center of this section was found a small quantity of charcoal scattered through the soil which had evidently been intermingled with the earth at the time of its deposit there. A little past the center to the south side were again found small particles of charcoal, in this case a little pocket of ashes accompanied the charcoal and it looked very much as though a small basket of earth, charcoal and ashes had been deposited together. East of the center of the mound, and near the base line of this cut, was found a very large pitted sandstone, pits occurring on both sides. The stone was 8 inches long, 6 inches wide and 5 inches thick. This sandstone was no doubt procured from the hillside near by, as ledges of this rock are exposed in several places. [See fig. 2, which shows first cut of 5 feet.]

#### SECOND SECTION

The second cut of 5 feet which was commenced at the north side and carried through directly to the south, was far more interesting than the first cut. This cut was composed almost entirely of earth and sand taken from the surrounding surface, with the exception of the center, which was composed of a compact dark-colored sand, and so hard that it was necessary to pick it down before it could be removed. Fig. 3 shows a photograph of the dome-shaped sand which proved to be the top of the original mound. Near the center of this sand portion were found two fragments of human bones consisting of one small piece of the right femur and one small piece of the



FIGURE II.



LAST STAGE OF THE EXCAVATION





FIGURE 10.



FIGURE 14.

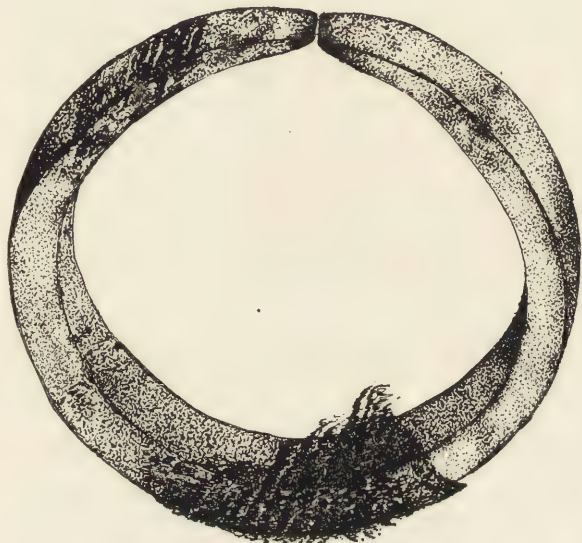


FIGURE 15.



FIGURE 17.



FIGURE 16.

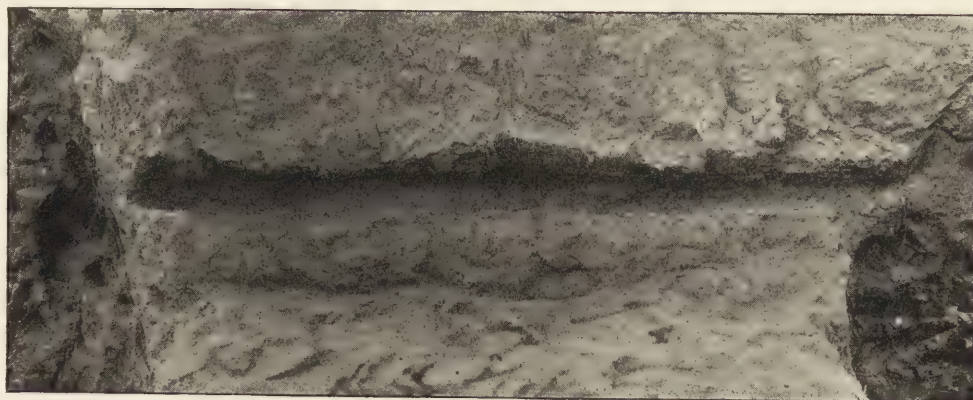


FIGURE 12.

left humerus. A little past the center of this sand portion was found a pocket of ashes and charcoal; in these ashes parts of the metacarpal bone of the deer and part of humerus of the wild turkey, were found. Just outside of this sand center to the east, and about 4 feet from the top of the 5 foot cut, was the skeleton of an adult upon the right arm of which two copper bracelets were found. These bracelets were made from a rounded piece of copper tapering to almost a point at each end, the ends overlapping each other when bent around the wrist. Around one of these bracelets was a quantity of well preserved woven cloth, [Fig. 4]. Upon a finger of the left hand were found two copper rings, and these were also made of hammered copper, formed into a light copper wire, this wire was then bent twice around the finger and formed what is known as the spiral ring, [Fig. 5]. The skeleton was very much decomposed and but very few of the bones could be saved. Around one of the bracelets was found a quantity of woven cloth, which was very nicely preserved, showing the texture, etc. [Fig. 6]. Five feet to the east of this first skeleton was discovered the skeleton of an adolescent, upon the wrist of which were found two beautiful copper bracelets, similar in every respect to those found upon the first skeleton, and having upon the head a head-dress made of large strips of mica cut into shape and pierced with holes for attachment, [Fig. 7]. Near the head of this skeleton was found a broken earthen jar which was carefully removed. Near this jar was unearthed a large square block of sandstone with cup-shaped depressions on one side.

#### THIRD SECTION

The third cut of 5 feet brought to light one skeleton. This was found near the east side, 12 feet from the edge of the mound and only 1 foot below the bottom of the second cut. No implements or ornaments of any sort were placed with this skeleton. It was in a bad state of preservation and only small portions of it could be removed. Near the center of this section were a number of deer bones which had evidently been carried there with the sand. A number of shell hoes made of the fresh water mussel (*Unio plicatus*), were scattered through the central portion of the mound. These hoes were made by cutting a hole through the shell for attachment [Fig. 8].

#### FOURTH SECTION

The fourth cut of 5 feet was very interesting. Five skeletons were removed from this section. Fifteen feet from the north side, and almost upon the base line, two skeletons were found lying side by side; both were adults, the one being a male and the other a female. No implements or ornaments were placed with these skeletons. Both were in a very bad state of decay, but the arm and leg bones were removed in a very good condition. A little farther in from the north edge was found another skeleton upon the wrist of which were two copper bracelets. These were quite small, in fact they had been hammered down so that the wire of which they were made was less than  $\frac{1}{4}$  inch in diameter; they were bent around the wrist, the ends overlapping each other, very similar to those found in the second cut. No other implements or ornaments were found with this skeleton. On the east side, and  $2\frac{1}{2}$  feet from the base of this cut, was found the skeleton of an adult. It was lying at full length, head to the north. Around the loins there was a coarsely woven cloth, but very little of this was saved owing to the advanced stage of decomposition. No implements or ornaments of any





FIGURE 13.



FIGURE 19.

sort were found with this skeleton. Not far from the south side of this cut was found the fifth skeleton; this was very near the edge of the mound and might have been an intrusive or secondary burial. The skeleton was in a fair state of preservation, and the skull and bones were carefully removed. No implements or ornaments of any kind were found with this skeleton.

#### FIFTH SECTION

The mound had now been removed to within 6 feet of the base. Heretofore we had commenced each 5 foot cut upon the north side of the mound, so as to aid the teamsters in removing the earth to the railroad cut. Of the last 6 feet only two were removed to the railroad cut, leaving the mound about 4 feet high when the work was finished. The object was twofold, first, the expense of the removal of the last 4 feet, second, the owner wished to have left a part of the mound to show at least where it stood; yet all of the dirt comprising the last 6 feet was carefully examined.

The work of examining the last cut was begun on the east side of the mound. Commencing at the very edge and following the base line it was soon discovered that this line gradually dropped toward the center showing that the earth had been removed forming a hollow basin, in the center of which was dug a large grave, 13 feet 9 inches long, 11 feet 4 inches wide and 6 feet 9 inches deep. By digging more than 3 feet in the gravel below, it was shown that this was the beginning of this great mound. The first skeleton found in this cut was that of an adult, found within the original mound. This skeleton was placed in a sepulcher made of logs. Further examination of this disclosed the fact that it contained another burial, the two burials being parallel, but the skeletons being in reversed positions. Both were covered with bark, but no traces of cloth were discernible. These skeletons were the largest so far found, the first one measuring 5 feet 11 inches, the second 5 feet 10 $\frac{3}{4}$  inches, in length. On the right wrist of skeleton number 1 was found a slate gorget [Fig. 9]. Directly between the two skeletons was found a tube pipe [Fig. 10]. The pipe is made of clay, presumably fire clay. The whole is  $\frac{1}{2}$  inch in diameter, tapering to a point where it is only  $\frac{1}{8}$  inch. The pipe is 4 inches in length and  $\frac{7}{8}$  inch in diameter. This sepulcher was constructed of unhewn timbers varying in length from 8 to 9 feet, and in diameter from 6 to 12 inches, although in several graves very much larger logs were found. These timbers were laid one upon another to a height of 2 $\frac{1}{2}$  feet, other timbers were then laid over the top and the dirt piled over all. In time these timbers rotted away and the superincumbent earth above would drop into the grave, and as the sides and ends were supported, naturally the center of the grave would drop in first. This finally formed an archway of earth above [Fig. 11]. The cast of one of the timbers forming the rude sepulcher is shown in fig. 12. Skeleton number 3 was found on the north side of the cut, near the base line. It was very much decomposed. The only ornament found with this skeleton was a bracelet made of bone beads. The skeleton was that of an adult male.

Skeleton number 4 was only a few feet from number 3, but had a sepulcher made for it. Some of the logs which composed this sepulcher were 10 inches in diameter. The body had evidently been previously buried in some other place and later transferred to this mound, as the skull was placed in the center of the grave with the *foramen magnum* turned upward, and surrounding it were bones of the leg, arm and vertebrae. At one end



were the cervical vertebrae and bones of the hand and foot; at the other end were the ribs and bones of the arm and lower legs. Throughout the mass upward of 200 beads made of bone and shell were found. The covering over the top of this burial consisted of three layers of bark the outside layer being very heavy something like oak bark, the next layer of a thinner bark something like the elm, the inside layer a very thin bark very much like the wild cherry or birch. Fig. 13 shows a photograph of this skeleton as it was uncovered in the mound.

Skeleton number 5 was found on the south side of the mound lying at full length, head to the east and  $4\frac{1}{2}$  feet from the base of the mound. This skeleton was 5 feet  $8\frac{1}{2}$  inches in length, and was that of an adult male. Near the head was a spearhead of chalcedony, 4 inches in length [Fig. 14]. Two very large flat bracelets, made of copper, were found on the right arm; these were partly covered with cloth which was very nicely preserved by the carbonate of copper [Fig. 15]. About 3 feet nearer the center of the mound, and on the same level with number 5, was exhumed skeleton number 6, which was 5 feet  $7\frac{1}{2}$  inches in length, and was that of an adult female. On the right arm were found two bracelets made of copper; these bracelets encircled a boat-shaped ornament pierced with two holes, through these holes were strings which had been preserved by the action of the copper. These strings showed too, that the gorget had been attached either to the arm or to a woven fabric that was found associated with the bracelets. This boat-shaped gorget is  $5\frac{3}{4}$  inches in length and made of limestone. Fig. 16 shows the position in which the gorget and bracelets were found.

Skeleton number 7 was found not far from number 6, but nearer to the center of the mound, it was that of an adult. The skeleton was placed about  $4\frac{1}{2}$  feet from the base of the mound. No ornaments of any sort had been buried with it and it was without even having a covering of bark. The skeleton was in a bad state of preservation and only a very small portion of it could be removed. Skeleton number 8 was that of a child about 6 years of age. The skeleton was placed in a sepulcher made of unhewn logs, and was 8 feet 9 inches in length, 5 feet 8 inches in width and 2 feet 9 inches high, and was placed on the base of the mound. The bottom of the sepulcher was covered with a bed of fine gravel, firmly packed. This gravel at the south end of the sepulcher was 3 inches thick and at the north end 2 inches; over the top of this gravel was placed a layer of bark which seemed to completely cover the bottom of the grave. The body of the child had evidently been wrapped in cloth from head to foot, over this cloth was also a wrapping of birch bark, and then came long strips of wood, which were about one-half inch thick and 2 inches wide. These were placed entirely around the skeleton, and over all was another covering of bark which looked very much like the inner bark of the bass wood. Around the neck of the little child two strings of beads were found. The first consisted of about 50 beads made of bone and shell from  $\frac{1}{4}$  to  $\frac{1}{2}$  inch in diameter. The other string was very much larger, and contained about 150 beads made of both shell and bone. The cloth found around the skeleton was of two kinds; the greater part consisted of a coarsely woven mat resembling very much the burlap of our present time; the other which was placed around the loins, was made of heavier and stronger material, but less closely woven.

Skeletons number 9 and 10 were found on the south side of the mound and were placed together in a sepulcher made of logs which differed

somewhat from the other sepulchers so far discovered [Fig. 17]. The sides of this sepulcher were composed of large logs 15 and 16 inches respectively, in diameter. These logs were placed near together at the head and extended at an angle of  $35^{\circ}$  as shown in the drawing. The logs placed over the top as a protection to the body when placed in the grave, were quite large, none of them being less than 6 inches in diameter and the largest one 12 inches. The skeletons were those of adults, both being males, and were in a good state of preservation. Around the neck of one, 6 beads were found. These were about one-half inch in diameter and made of bone, finely polished. No implements or other ornaments were placed in the sepulcher. Skeleton number 11 was that of an adult male, also placed in a sepulcher made of logs which was 8 feet long, 4 feet wide, and 18 inches high. The skeleton was 5 feet 7 inches in length. Around the neck was a necklace made of bone beads.

Directly beneath this sepulcher and on the base line of the cut was a great fireplace, the ashes being 14 inches in thickness. This was very near to the grave which was found in the center of the mound. In these ashes was found a great quantity of burned mussel shells, also the bones of various animals. These were all calcined by the heat but enough was left to identify them. Those removed from the ashes were the wild turkey, trumpeter swan, Virginia deer, black bear, and raccoon. Not a particle of charcoal was found in this fireplace, showing that the fire had burned entirely out before it was covered up. This fireplace on the east side of the large central grave corresponded to one found later on the west side of the grave.

Skeleton number 12 was that of an adult male, placed in a large sepulcher made of logs. This sepulcher was 12 feet long, 7 feet wide and  $2\frac{1}{2}$  feet high. The largest logs were placed at the bottom and measured  $10\frac{1}{2}$  inches in diameter. In speaking of the logs which composed the sepulchers of this mound it will be understood that nothing is left of the logs but the molds. The bottom of this sepulcher was covered with bark which consisted of several layers. The skeleton was perfectly wrapped in bark, the outside being of a coarse quality and resembling very much the bark which covered the bottom of this sepulcher. The next two layers were evidently birch bark. Around the neck of the skeleton was a great quantity of beads made from small ocean shells; around the wrist were also a number of beads, but these were made in the shape of small disks one-fourth inch in diameter and were made of the leg bones of the deer and elk. This sepulcher was placed on the base line.

Skeleton number 13 was that of an adult, and was placed about  $2\frac{1}{2}$  feet above the base line, and very near the sepulcher which was occupied by number twelve. The log molds of the sepulcher showed that only small pieces of wood were used in its construction. No implements or ornaments were placed with this skeleton. About 2 feet from the head of this skeleton was found a shell hoe, very much worn and which no doubt had been lost. Further excavations on the base line of the south side of the mound disclosed skeleton number 14, which was 5 feet 8 inches in length and badly decomposed. At the head were placed three large stone slabs, at the foot four and connecting the tops of the slabs were large logs ranging in diameter from 3 to 9 inches. On the right arm of the skeleton were placed four copper bracelets made of heavy copper, several of which were almost one-half inch in diameter, some of which were covered with





22.

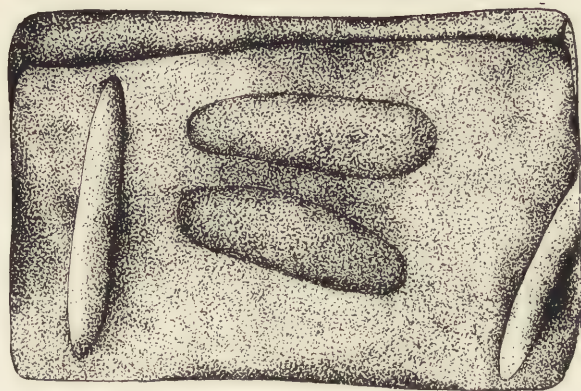


FIGURE 20.

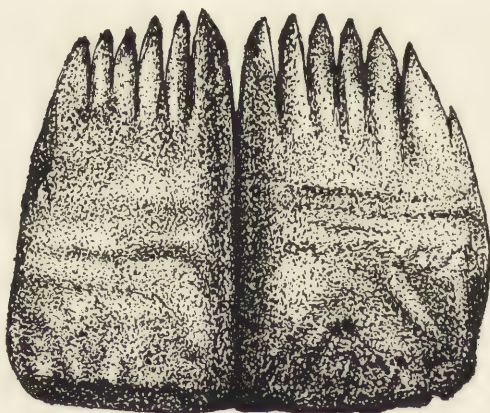


FIGURE 21.



23.



FIGURE 24.

cloth. On the left arm were also four copper bracelets, identical in every particular to the ones found on the right arm. Around the head was a string of beads made in the form of disks, averaging one-half inch in diameter; these numbered upward of 200. Around the loins was also a string of beads of the same kind. At the feet were some broken pieces of diorite, several of which showed that they had been used while others showed that they were in the process of manufacture of some implement. Approaching the center of the mound it was discovered that a grave was located below the base line by the appearance of gravel which had evidently been thrown out of the center grave on all sides [Fig. 18]. The center grave was quite large, being 13 feet 9 inches long, 11 feet 4 inches wide, 6 feet 9 inches deep, measuring from the base line [Fig. 18]. The bottom of the grave was covered with a layer of bark which extended up the sides of the grave and over the sur-

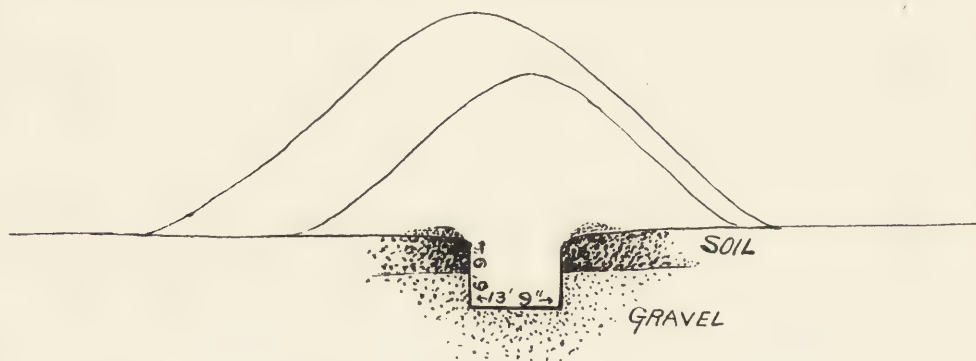


FIGURE 18.

rounding surface for 10 feet on all sides. Upon this layer of bark, at the bottom of the grave, was the skeleton of an adult male, 5 feet 9½ inches in length, with head to the south. The skeleton had been wrapped in three distinct layers of bark, and was in a fair state of preservation. The skull was badly crushed and several of the arm bones were broken, the tibia and fibula of both legs were painted red, evidently the flesh had been removed from the bones, the paint placed around them and the whole then covered with a plaster of mud. Around the feet and loins was found the remnant of a woven fabric, similar to the fabrics already described. Near the feet were 9 large leaf-shaped knives made of flint obtained from Flint Ridge. These were finely wrought and ranged in length from 3 to 4 inches [Fig. 19]. Between the right and left tibias, but nearer to the right, was found a tablet, 4 inches long by 2½ inches wide and ½ inch thick. This tablet is made of a fine grained sand stone. The edges are all beveled, both sides being similar. On one side, near the center, are two long indentations both extending the long way of the tablet, also two other indentations at almost right angles to those extending the long way. This tablet was no doubt used in the manufacture of bone implements and ornaments [Fig. 20]. To the side of the right tibia and directly opposite the tablet were found two leaf-shaped knives, similar in every respect to those found at the feet, a large slab of flint broken into shape preparatory to its being manufactured into a knife, and several scrapers made of flint. Near the last mentioned flint pieces three incisor teeth of the beaver were found. These were not perforated, neither did they show that they had been worked in any way, yet they might have



been used as tools. With the beaver teeth were two pieces of rib bones, presumably those of the elk, one end of which had been cut square while the other was cut in the form of a comb, each piece having 6 teeth. The pieces were no doubt fastened together, as is shown by the drawing Fig. 21, as they were in this position when found. They were carefully removed, and it was supposed at the time that the comb had been made of one piece of bone instead of two. Each piece is 2 inches long by  $1\frac{1}{4}$  inches wide. On the outside of the left tibia were 11 large awls, all made of the shoulder blade of the elk, and very beautifully wrought [Fig. 22]. They range in length from 6 to 11 inches. With these awls was found a needle  $7\frac{1}{4}$  inches in length, one end having a very sharp, almost round end but gradually tapering and flattening toward the other end where it was pierced by a small hole  $\frac{1}{8}$  inch in diameter [Fig. 23]. Around the head of the skeleton but mostly to the left were 12 awls made of the shoulder blade of the Virginia deer. These were in every respect similar to those found near the left tibia and varied in length from 5 to 6 inches.

On each side of the head were found two perforated canines of the mountain lion which doubtless served as ear ornaments. Directly above the skeleton was placed a large quantity of bark, four layers being distinctly visible, yet from the quantity that was found it is evident that many more layers of bark were placed there at the time of burial. Directly over this bark was a layer of ashes 3 inches in thickness in which were found the calcined bones of two distinct human skeletons, one being that of an adult, while the other was that of a child. Various portions of the skull and of the large bones were found, showing that the human body had been cremated and the ashes and bones that were left had been placed over this grave. With these bones were found, scattered through the ashes, the remains of the deer, elk, black bear, raccoon, otter, beaver, wild turkey, trumpeter swan and great horned owl. These bones were freely mingled with the human bones. The bones no doubt comprise the remains of a sacrifice made near the center grave in the great fireplace spoken of, after which the ashes and calcined bones were gathered up and deposited over these remains.

Immediately above the ashes was placed a layer of logs ranging in thickness from 5 to 7 inches. These were placed in the side of the grave and covered with small sticks. Upon this covering of small sticks and immediately above the feet of the skeleton placed at the bottom of the grave, and at right angles to it was the skeleton of a male adult 5 feet 8 inches in length. The skeleton was covered with a layer of bark. No implements or ornaments were placed with this burial. Finding the skeleton placed in this position might lead one to surmise that there had been a human sacrifice, and this sacrifice placed at the feet of the lower skeleton, yet nothing in the burial would show that such was the case. Some little interval of time might have elapsed between the first and second burials in this grave, yet no evidence was found to verify this fact. Immediately above the skeleton was placed another layer of logs, the logs being covered with small limbs. Above this was another layer of logs with brush and small limbs placed over the top. It is evident that no soil was placed in this grave, and only the dirt was placed over the last layer of brush and the mound heaped over all. This is readily seen in the arched roof made by the dropping down of the superincumbent earth above, as the logs and sticks would rot away and let the earth drop into the grave below.

Fifteen feet directly south-west of the center of the mound was found skeleton number 17, which was that of an adult male, 5 feet 8 inches in length. The skeleton was placed in a sepulcher made of logs, which consisted of two very large logs, placed by the side of the body, and smaller logs placed over the top as a covering. This skeleton was noted for its singularly heavy bones. Upon the right arm had been placed a string of 15 bear claws which had evidently been used as a bracelet.

Skeleton number 19 was placed directly west of the center of the mound. It was that of an adult male 5 feet  $7\frac{3}{4}$  inches in length. Around the neck had been placed a string of beads made of bone  $\frac{1}{2}$  inch in diameter and  $\frac{1}{8}$  inch in thickness. These disks looked very much as though they had been sawed out, so perfectly were they made.

Skeleton number 20 was that of an adult male, 5 feet  $11\frac{3}{4}$  inches in length, having very large bones. This was the largest skeleton found in the entire mound. Near the right wrist was a gorget, perforated with two holes similar in shape to Fig. 9. This is made of limestone. In the right hand was a large spear 5 inches in length and made of Flint Ridge chalcedony [Fig. 24]. Near the left knee was found a tubular pipe 5 inches in length and very well made. The material of which this pipe is composed is clay, presumably fire clay and is of the same material used in all the pipes found in this mound. At the right knee were found three round stones, which were made from diorite. They were 2,  $1\frac{3}{4}$ , and  $1\frac{7}{8}$  inches respectively in diameter. There is no doubt but that these round stones were used in making some implement of warfare.

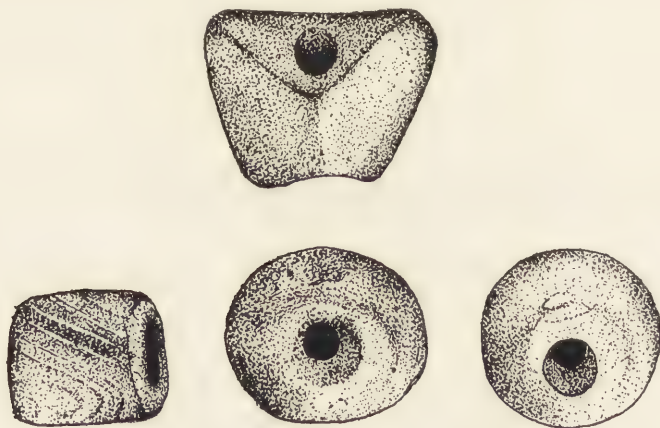


FIGURE 25.

Skeleton number 21, placed on the north side of the mound, was perhaps the richest of the mound finds. The skeleton was placed in a sepulcher made of very large logs. The one on the outside measured 17 inches in diameter and was 16 feet in length. The log which formed the inside of the sepulcher was  $12\frac{3}{4}$  inches in diameter and 19 feet in length. The two logs were placed 8 feet apart, the top covered with smaller logs varying in diameter from 3 to 7 inches and placed very close together. Between the larger logs smaller poles and brush were placed. The skeleton was laid with its head to the east and upon a covering of bark which seemed to envelope the entire bottom of the sepulcher. Implements and ornaments were promiscuously placed in this sepulcher. The beads were found very





FIGURE 27.



FIGURE 28.



FIGURE 29.



near the skeleton. About 500 of these were composed of shell, and about the same number of bone and fresh water pearls. Near the left knee were found very large beads made of shell [Fig. 25]. Here also was found an ornament made of shell, no doubt the effigy of a raccoon [Fig. 26]. On the back of this effigy were two counter sunk holes for attachment. Near the head were found three spear points made of the antler of the deer, seven arrowheads and three knives made of chalcedony from Flint Ridge. On the right hand of the skeleton were found three arrowpoints made from the same material as the other seven. The pearl and bone beads were placed around the neck in three strings, while the shell beads were placed near the right wrist and seemed to have been attached to a coarse cloth which evidently surrounded the loins.

Near the left hand was found an effigy pipe [Fig. 27, front view, Fig. 28, side view, Fig. 29, back view]. The pipe which is 8 inches in length, is composed of clay, resembling the fire clay found in Scioto County, which is further south but in the same valley. The pipe is tubular in form, the hole extending the entire length of the body, the large opening between the feet having a hole  $\frac{5}{8}$  inch in diameter. Within an inch of the top of the head it begins to narrow down to a very small aperture  $\frac{1}{8}$  inch in diameter. The mouthpiece formed a part of the headdress of the image. The front part of the pipe is of a light gray color, while the back part is of a brick red. The specimen is covered with a deposit of iron ore, which appears in small blotches over the entire surface of the specimen, the one side of the face and body being more densely covered with it than the other parts of the pipe. The effigy represents the human form in the nude state with the exception of the covering around the loins. This covering extends around the body and is tied in the back. The ends of the covering hang down and serve as ornaments. On the front of this covering is a serpentine or scroll like ornamentation. From the lobe of each ear is hung an ear ornament which is quite large in proportion to the ear and resembles very much the button-shaped copper ornaments which are so frequently found in the mounds of the Scioto Valley. However, none of these ornaments have been found in this mound, but quite a number have been taken from mounds in the immediate vicinity. In looking at this specimen one is struck with the close resemblance to the Mexican and Central American art.

The next skeleton found was on the west side of the mound. It was outside of the original mound and was in a fair state of preservation. It was that of an adult male, 5 feet 8 $\frac{1}{2}$  inches in length. No implements or ornaments were placed with this skeleton nor with another one found to the north outside of the original mound.



FIGURE 26.

## SOME CEREMONIAL IMPLEMENTS FROM WESTERN ONTARIO, CANADA

BY W. J. WINTEMBERG

THIS is the region formerly occupied by the Attiwandaron or Neutral Indians. It is here that bird amulets, gorgets and other artifacts in stone, vaguely termed ceremonial implements, are found in greatest profusion. The Neutrals do not appear to have had the art of making them, for very few are found on the sites of their villages. They are usually found sporadically, or near camp sites which, we have reason to believe, were occupied by an earlier and, possibly, non-Iroquoian race.

Nearly all of these objects, we are safe in assuming, were non-utilitarian. They are usually made of beautifully banded stones, which are invariably too soft and fragile to have made serviceable weapons or tools.

*Bird Amulets.* These objects appear to be found more frequently in this province than in any other part of North America. The Ontario Archæological Museum, at Toronto, has over 50 of these amulets, and many others are in private hands. Very little is known regarding their use. Many theories have been advanced. Mr. David Boyle, the provincial archæologist, says of them: "It has been suggested that these articles were worn on the crown of men's heads as ornaments; that they were worn in the same way by women to indicate that they were married; that they were employed in playing a game; that they are totems of tribes or clans; and that they were talismans in some way connected with the hunt for waterfowl."<sup>1</sup> In reference to the third suggestion, it may be said, that some bird amulets are remarkably like the ivory images of birds used by the Eskimos in playing a game. Several of these objects were exhibited by the University of Pennsylvania, in the Ethnological Building, at the Pan-American Exposition. The writer was struck with the close resemblance they bore to our amulets. Some of them were perforated at the ends.<sup>2</sup> Of course, our amulets could not have been used in a game similar to that of the Eskimos, because many of them would have been broken. Not many broken specimens are found, and this condition is often attributable to the plough, frost and other destructive agencies.

A bird amulet, of which the writer has a cast, is represented in fig. 1. The original was found near Ancaster, Ontario. The head of this specimen, as viewed from the side, looks much like that of a mammal, but the tail is shaped like a duck's. The eyes are much exaggerated, being large projecting knobs. The back bears a number of incised lines which may have been intended as conventional representations of wings. Two diagonal lines cross each other about the middle, and short lines run from these to the sides. A somewhat similar, though more elaborate method of representing

<sup>1</sup>*Notes on Primitive Man in Ontario*, pp. 67-68.

<sup>2</sup>For excellent figures of similar specimens see *Chess and Playing Cards* by Stewart Culin (Report U. S. National Museum for 1896); figs. 43, 44.



the wings is shown on a pipe figured by McGuire in his *American Aboriginal Pipes and Smoking Customs*. [Fig. 167]. The hind basal hole of fig. 1 is bored through a small transverse bar. It is  $2\frac{3}{4}$  inches long and  $1\frac{1}{8}$  high.

We find very few specimens in which the mouth is indicated. Fig. 2 possesses this feature. It is made of nicely banded slate, and its length is  $4\frac{1}{2}$  inches. It is  $1\frac{1}{8}$  inches high and 1 inch wide. The mouth is represented by a V-shaped notch, which is about  $\frac{1}{4}$  of an inch deep. The eyes are represented by flat disks, about one-eighth inch thick, with flattened peripheries. It was found near Innerkip, Ontario, and belongs to W. H. Burgess.

A very rare two-headed bird amulet is shown in fig. 3. I have never met a single reference to an amulet possessing this unique feature. It was found near Paris, Ontario, and is in Mr. C. H. Roberts' collection. It was nearly destroyed by a fire which consumed part of the business portion of Paris several years ago. It was afterwards found among the debris of the burned building, in which it had been kept. The fire has changed it from grey to a reddish color. It is  $4\frac{1}{4}$  inches long, seven-eighths wide, and one inch in height. One of the heads is larger and lower down than the other. It may be that the tail having been broken, was refashioned, and given its present form. The eyes are represented by projecting knobs, and the usual "fore and aft" holes are present.

Fig. 4 shows a peculiar bird amulet, made of banded slate, from near Washington, Ontario. It is  $2\frac{3}{4}$  inches from tip to tip,  $1\frac{1}{2}$  inches high, and the width of the base varies from  $\frac{3}{4}$  to  $\frac{7}{8}$  of an inch. One eye is broken out, leaving a shallow rounded pit. The other is represented by a rounded boss which projects about  $\frac{1}{8}$  of an inch beyond the side of the head. The front of the head is flat, and there is no indication of a beak as in other specimens. The back is sharp; the sloping tail is broad and flattened at the back; and a hole is drilled diagonally through the corner of each end.

Amulets resembling fig. 5 are common. It is made of grey Huronian slate which is nicely striped with bands of a darker color. There is no indication of a head; what is usually taken to represent the head may also represent the tail. A similar specimen, except that the "head" is much longer, is figured in Prof. Moorehead's *The Bird Stone Ceremonial*. [Fig. 21]. The length of fig. 5, which was found in the village of Plattsville, is  $4\frac{1}{2}$  inches. It is  $\frac{3}{4}$  of an inch wide at the base, and  $1\frac{5}{8}$  inches high. The basal hole at the front is broken. The under surface of the head, neck and base are slightly convex, and it is conoidal in cross-section.

The head of fig. 6, it is believed by some, was accidentally destroyed and afterwards restored, but I believe that it was made so designedly. It is  $5\frac{1}{4}$  inches long, and  $1\frac{1}{2}$  high, and is made of a beautifully-banded dark-grey slate. It was found in Perth County. This type of amulet is a link between the bar and bird forms.

Other types of bird amulets have been found here but were not available for illustration. A few resembling fig. 31 in Moorehead's *Bird Stone Ceremonial* were found in various parts of Western Ontario.

Bar Amulets. Bar amulets are not quite so common as the bird forms. They are usually made of a long straight piece of slate, rounded at the top, with a flat base, and have a perforation at each end. Fig. 7 represents a specimen of this class. It is 7 inches long,  $\frac{5}{8}$  of an inch high, and  $\frac{3}{4}$  wide, and is made of the usual material. It was found in Oxford County and belongs

to W. H. Burgess, Drumbo. A farmer, near New Dundee, has an amulet which differs from most specimens in having one hole drilled through the top and not through the corner. The thickness of the stone at this end has been reduced to  $\frac{1}{2}$  of an inch. I have never seen a specimen like it before.

There is a bar-amulet in the Provincial Museum, the holes of which are made from each side.<sup>1</sup>

*Banner Stones.* The precise use of these objects is also not known. It has been suggested that the crescent-shaped forms were bound on the forehead, in place of buffalo horns, on ceremonial occasions.

Fig. 8 is a type of banner stone most frequently found. They are crescent-shaped and invariably have terminal knobs. There are also specimens without knobs, and others which are nearly straight like a pick-axe. The one shown in the illustration was found in Waterloo County. It is 7 inches in length (measured straight across, from tip to tip), and is  $1\frac{1}{2}$  inches thick at the middle. The hole is  $\frac{3}{8}$  of an inch in diameter. It is made of Huronian slate.

A similar one, except that it is more curved and not quite so large, is in the possession of Mr. W. Munro, Woodstock. The Provincial Museum, at Toronto, has two.

Banner stones with thin lateral wings and barrel-shaped centers have also been found. The "butterfly" type is sometimes met with. These are often broken at the middle and have a hole drilled through each half, evidently for uniting the broken parts with a cord or deer-skin thong.

A farmer, who lives about 4 miles north of this place, has a banner-stone resembling a double-bitted axe. It is shaped like fig. 103 in Prof. Thomas Wilson's *Prehistoric Art*, but the ends are not so expanded. The farmer's specimen differs from Wilson's figure in having both narrow sides concaved transversely.

*Boat-shaped Amulets.* Boat-shaped stones are very seldom found. There is one in the Rathbun collection, Drumbo; but it is not hollowed out. Fig. 9 represents a peculiar and unique specimen which was found near Drumbo, Ontario. The stone has been broken twice, once at the end where the perfect hole is, and once at the other. As may be seen in the illustration, there are remains of holes at each end. The perfect hole is drilled through at an angle, apparently with a flint drill. A hollow,  $\frac{1}{4}$  of an inch in depth and one inch in diameter, has been excavated into one side. The top of the specimen is of an irregular shape, which shows that it was of some water-worn pebble, this side being left in its natural condition. It has been slightly rubbed down on the edges and on the lower surface. The material is a beautifully veined Huronian slate. Mr. David Boyle figures a somewhat similar specimen [fig. 49] in the *Ontario Archaeological Report for 1894*. One side of this specimen seems to have been broken off, leaving a large hole in the middle.

It is impossible to say for what purpose such specimens were used. They are evidently related to the boat amulets. According to a Mohawk medicine woman these boat-shaped stones are "amulets or charms to enable the witches to ferry themselves over streams of water, as the broomstick serves modern witches for flight through the air. If this object should be lost, it was believed that her power of flight or passage was gone."<sup>2</sup>

<sup>1</sup>Fig. 183 in Boyle's *Notes on Primitive Man in Ontario*.

<sup>2</sup>Wilson, *Prehistoric Art* (Report U. S. National Museum, 1896, p. 457).





1. Bird Amulet from Ancaster. 2. Bird Amulet, Innerkip. 3. Two-headed Bird Amulet, Paris. 4. Peculiar Bird Amulet from Washington. 5. Bird Amulet, Platts-ville. 6. Bird Amulet, a type midway between the bar and bird forms, Perth Co. 7. Bar Amulet from Oxford County. 8. Banner Stone, Waterloo Co. 9. Curious ceremonial object apparently related to the boat-shaped forms, Drumbo. 10. Coffin-shaped Gorget, Drumbo. 11. Gorget from Drumbo. 12. Gorget of a peculiar form, near Drumbo. 20. Pendant, Drumbo.

*Gorgetts or Tablets, and Pendants.* These are supposed to have been worn as personal ornaments. Those with a single perforation and sharpened end may have been used as tools.

Typical forms of gorgets are shown in figs. 10 and 11. Other specimens of the same type as fig. 10, but with convex edges are sometimes met with. A gorget with one end coming to an obtuse point, but otherwise shaped like fig. 11 was found near Drumbo some years ago. A fragment of another, in the Rathbun collection, is also of this type, but has a broad cutting edge at one end. Both figs. 10 and 11 are of Huronian slate and were found near Drumbo. A few round disk-shaped gorgets, with a median perforation, were found near this village some years ago, but were, unfortunately, lost before the writer saw them.

Fig. 12 shows a peculiar gorget, which received its form through natural rather than through artificial means. Very little rubbing has been done on it and this only to remove the more prominent irregularities on its edges. The sides, except near the pointed end, were not polished. The holes also are very rudely made. The length of this singular object is  $4\frac{3}{4}$  inches and it is  $1\frac{3}{4}$  wide.

Fig. 13 is figured solely because of the material which is porphyritic diabase, and which is rarely used. It is of a dark green color mottled with yellowish-white. The dark portions are also stippled with small black dots. It is nicely polished and the edges are nearly all perfect. The material is very hard and, considering this, the gorget is very well made indeed. The holes appear to have been bored with a solid wooden drill aided with water and sharp sand. The striæ characteristic of perforations made with stone drills are entirely wanting. The holes are also drilled entirely through and not from both sides as is usually the case. These holes are  $\frac{1}{4}$  of an inch in diameter on one side and only  $\frac{1}{8}$  on the other, and are slightly worn. This interesting specimen was found near Plattsville, Ontario.

Although fig. 14 is not very well made, it possesses one feature which we have not observed before. There are four holes which are deeply countersunk on the side opposite the one shown in the illustration. The central holes are close together, and as may be seen in the figure, a piece has been gouged out of the edge of each hole. This may have been done to prevent the cord from being cut by the edges of the holes. This cord might have been passed through these holes and then through the two at the ends, for this would have kept the gorget in a horizontal position on the wearer's breast. All the holes are considerably worn. The length of this gorget, which is made of red slate, is  $4\frac{1}{2}$  inches, and the width  $1\frac{1}{4}$ . One of the ends has been brought to a cutting edge, and the other also appears to have been sharpened, but is broken. It was found near Drumbo.

A reddish-brown slate gorget with a sharp cutting edge at one end is shown in fig. 15. The sides have been nicely polished and it is altogether a very symmetrically shaped specimen. It was originally much longer for at one end there is the remains of a hole. A piece must have been broken off while making the perforation, and the fractured edge was then partly ground level, and another hole was made about  $\frac{1}{4}$  of an inch away from the first. This hole shows signs of abrasion. One of this gorget's most interesting features is the presence of a number of notches on two of its edges; one of which is shown in the illustration. Whether these are merely for ornament or as a tally it is impossible to say. I doubt if it ever was used as a cutting





13. Gorget of porphyritic diabase found near Plattsville. 14. Gorget with four holes, Drumbo. 15. Gorget with cutting edge, Washington. 16. Gorget or pendant, near Plattsville. 17. Gorget or Tool, Drumbo. 18. Gorget or pendant with teeth cut in at an angle on the lower edge, Drumbo. 19. Broken Gorget, Drumbo. 21. Pendant, Drumbo, 22. Pendant, Drumbo. 23. Small, pear shaped pendant, Neutral village site, Oxford Co.

instrument, although the sharpened end may indicate such a function. It was found near this village.

One of the features of the preceding illustration is encountered in fig. 16, namely, the sharp cutting edge on one end. In this specimen, however, the hole is near the sharpened end. The edge is slightly chipped; perhaps from use. The hole is  $\frac{1}{2}$  inch in diameter and was drilled in the usual way. It shows signs of wear on the inside. It is made of a dark Huronian slate; is  $4\frac{1}{2}$  inches long, 2 in width, and  $\frac{5}{8}$  of an inch thick, and was found near Plattsville, Ontario.

Fig. 17 also has a sharpened end. It is made of a piece of slate. Very little work has been expended on it. The edges are convex and converging symmetrically come to a point at one end. The cutting edge is moderately sharp. The hole is about  $2\frac{1}{4}$  inches from the pointed end, and is  $\frac{1}{4}$  of an inch in diameter. This specimen is 6 inches long,  $2\frac{1}{4}$  wide, and  $\frac{3}{8}$  of an inch thick, and was found near Drumbo.

The specimen represented by fig. 18 is somewhat unique. On the lower edge a number of teeth have been cut in at an angle, but for what purpose it is difficult to explain. This specimen is of striped slate and was found in Oxford county.

Fig. 19 is of slate and is broken. It is hard to say what the other end was like. The top end has been notched and the shape otherwise is very unusual. It was found south of Drumbo, Ontario.

Figs. 20 to 22 represent common forms of slate pendants from Oxford county.

A small pear-shaped pendant made of black slate, from an Indian village site, is shown in fig. 23. The marks shown on the side were made by using a rudely chipped drill to make the perforation. The other side also has similar marks about  $\frac{1}{8}$  of an inch away from the hole.

\* \* \* \*

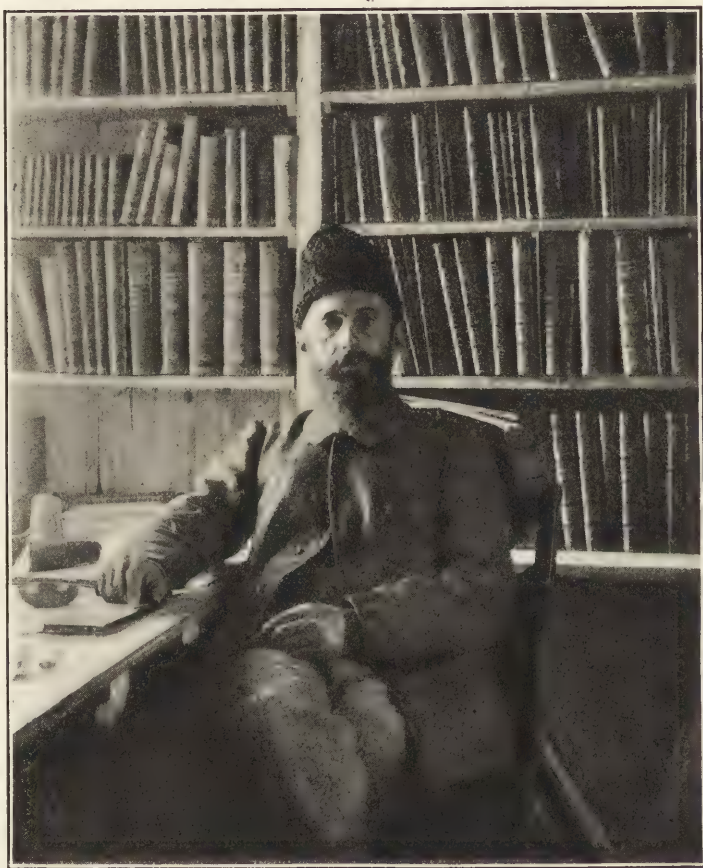
## JACQUES DE MORGAN

BY MAJ. ALFRED R. CALHOUN

GR<sup>E</sup>AT explorers and archæologists, like great poets and great orators, are born, not made. When, in 1813, Dr. Thomas Young discovered in the black face of the Rosetta Stone, brought by the victorious English fleet to London, the key to Egyptian hieroglyphics, the most sanguine scholar did not dream of the wonderful old world that this key was to bring as a new world to us. In practical archæology, as in many other sciences, the English and French have been generous rivals from the days of Newton to the present. That on which, the English scholar Young turned the first glimmer of light, Champolion, the French scholar, made clear as a mountain peak under the midday sun. But while the workers for truth belong to the world and not to a nation, France may well feel proud of Jacques de Morgan, a man still in the prime of life; a man with the physical strength, and the mental powers and culture that command place and wealth, but who for love of truth has given the get-thee-behind-me-Satan to all temptations that would swerve him from its investigations.

Jacques de Morgan was born near Blois, France, on June 3, 1857. His mother's maiden name, Marie de Calonne, has in it a suggestion of





*J. de Morgan*

IN HIS OFFICE AT SUSA

Belgian descent. That the de Morgan family was cultured and in good circumstances is shown by the fact that Jacques, the second son, had the best educational advantages. The youth, who was to become famous in a field so uninviting to the young and ambitious of this day, was educated at Cherbourg and in the School of Mines in Paris, with a view to his becoming an engineer.

After graduating with honors from the School of Mines, Jacques de Morgan made an extended tour through Bohemia, Denmark and the Scandinavian Peninsula. That this travel was not for pleasure was made evident by his publication in 1882, when he was 25 years of age, of a work entitled *Geologie de la Boheme*, that attracted the favorable attention of geologists.

Obedying the bent of his genius, de Morgan went to India in 1883, where he made a careful study of the mighty ruins of that wonderful land; ruins that to him had a more absorbing interest than the teeming millions about him, or the great engineering achievements of the English conquerors. In 1884 the young scientist, in a semi-official capacity, visited Malacca, much of which was, up to his coming, almost a *terra incognita*, particularly that part of the peninsula back from the coast. He made the first map of the but little known kingdoms of Perak and Patini, and his accounts of those countries showed that he united the finest descriptive powers with scientific accuracy and scholarly fidelity.

While young men of Jacques de Morgan's age were loafing in the Latin quarter, or hoping for good fortune to meet them in the *Cafe Chantant*, he, in 1886, was sent by the French Government on a scientific expedition to Russian Armenia. The result of this tour was his book entitled *Mission Scientifique au Caucase*, studies of the archæology and history of that region. This was published in Paris in 1889, and added largely to his literary and scientific fame. After nearly 3 years in Armenia, during which he mastered every language within reach, de Morgan was ordered to Persia in the same interests. He began work at Teheran, November 23, 1889, and explored that country with characteristic energy and care for 2 years. He returned to Paris in December, 1891, to find that not only France but the learned world had come to admire his efforts and respect his name. *Mission Scientifique au Perse*, published in 5 volumes, with maps and illustrations, in 1894, was the outcome of this expedition.

In 1892 Jacques de Morgan, to whom it would seem his Government was determined to give no rest, was sent to Egypt to take the place of M. Grebault, who for some years has had the chief direction of the explorations in the buried cities and tombs of that land. Up to this time de Morgan had done enough to entitle him to a foremost place among the great archæologists of the century, but there were yet greater things before him, and in sending him to Egypt the French Government placed the right man in the right place. His spade and his pen have been ceaselessly active. To the latter we owe among other works and papers the *Catalogue of the Gizeh Museum*; *L'Elamet l'origine des l'Invasion des Pasteurs dans la valle du Nile*; *Dicouverte du Mastaha de Ptah-Chepses*.

De Morgan's work on Persia is by all odds the most valuable that has yet appeared on the archæology of that country, and yet he modestly tells us that he has but skimmed the surface of his subject and but hinted at its possibilities. Not the least interesting part of this most interesting book are the pages in which he tells, in a casual way, of the intense conservatism



of that still ancient land, of the obstacles which not only the ignorant peasants but the more enlightened (?) officials placed in his way, and when he returned to Persia to begin the great work in which he is now engaged, he found the same obstacles on the part of the natives again confronting him.

In 1898, the French Government having obtained the exclusive right to carry on explorations in Persia, M. de Morgan left Egypt and the following winter began excavations on the site of Ancient Susa. His work there has been attended with marvelous success. The results thus far are second only to those of the University of Pennsylvania at Nippur in Babylonia.

Of splendid physique, still in the prime of a most successful life, full of energy, skillful in resources, and tireless in effort, but above all, intensely in love with the work to which he has devoted his life, what may we not expect from this remarkable man? The scientific world waits for the last news from de Morgan as the general public watches for despatches from warring nations, or the business world for market reports. He sends us news of dead dynasties which are more interesting than the doings of living ones. He removes the mould of ages from buried cities that were once grander than our populous marts. De Morgan is resurrecting the past, and giving a vital interest to the doings of men whose names but for his effort would remain buried forever in the sandy oblivion that has so long enshrouded their tombs.

## Notes

AT PHAISTOS near Gortys in Crete the Italian Archæological Expedition has discovered what they suppose to be one of the oldest Greek theaters.

SOME INK FOUND IN A ROMAN VILLA at Vertault has been analyzed by M. Leidié. He found that it consisted mainly of lampblack with traces of copper, tin, iron and chalk. Evidently the ancient Romans used ink quite similar to our Indian ink.

TWO VALUABLE MANUSCRIPTS have recently been found by Prof. Seybold in the famous collection of Arabic Manuscripts at the Library of Tübingen. One is a treatise on "Points and Circles" which expounds the inner mysteries of the doctrine and ritual of the Druses of Lebanon, the other, what is supposed to be the oldest manuscript of the "Thousand and One Nights" which contains a story not found in any of the other known collections of these stories.

THE REPORT OF THE MINUSINSK MUSEUM for the year ending with January, 1902, shows an amount of vitality in that out-of-the-way Siberian town which is very surprising. They have added to their collections during 1901, 2,357 specimens, which brings their total number tabulated up to 56,503. On subjects of natural history they have 19,245 specimens, 70 of which were added this last year. Of anthropological subjects they have 515, of ethnological, 2,674, of archæological, 14,875, besides other collections. During the year there were added 320 ethnological and 1,257 archæological specimens. Practically all of these collections are local ones, from the Steppes of Minusinsk and the neigh-

boring mountains. (See illustrations, vol. I, part I, pp. 9-12.) Mr. Martianoff, the founder of this museum, wishes to have the statement, made in our January number, that he had been an exile, corrected. He writes that he came to Minusinsk of his own free will, 30 years ago, with the intention of opening a drugstore and that he has remained in that business since.

SOME RECENT DISCOVERIES IN THE ROMAN FORUM are of great interest. Under the direction of M. Boni the "Sanctuary and Fountain of Juturna" has been brought to light. On one part of the architrave of the Sanctuary which remains is the inscription IVTVRNAE SACRARIUM, which identifies it positively. Another inscription on the well-head shows that it was consecrated to Juturna by Marcus Barbatius Pollio, who according to Prof. Vaglieri "occupied the position of quaestor to Lucius Antonius in 41 B. C. and who was mentioned by Cicero."—"In front of the well is a marble altar which has a sculptured relief on the front, with figures of Mars and a female divinity, Juno or Venus. Prof. Marucchi thinks that the scene represents Juturna saying farewell to her brother Jurnus according to the legend of Virgil."

The other important discovery is that of the Fountain of Juturna, which was very dear to the Romans for its historic associations and the "salubrity of its waters."

"The victory of Tusculum is supposed to have been announced to the Romans by Castor and Pollux, who watered their horses in this spring, which flowed in the Forum near the slopes of the Palatine, and which the ancients called the fountain, or even lake, of Juturna." The water still flows in this fountain.

Among the interesting finds here is the altar which "has sculptured on its four sides Castor and Pollux, Jupiter with his scepter and thunderbolts, Leda and the swan, and a female figure, evidently a goddess who holds a long torch, very probably Diana Lucina." There was also found a life size statue of Esculapius, a bust of Jupiter and a fine horse's head which "must have belonged to a group which represented Castor and Pollux with their horses," and a torso of Apollo. [See *Scientific American*, Apr. 26, 1902.]

THE EXCAVATIONS OF THE MOUNT OF "KASR" or the palace residence of Nebuchadnezzar the Great, King of Babylonia (who ruled from 604 to 561 B. C.), promise to furnish very rich results. Already much has been done and the preliminary reports of the German Society for Excavation in the Far East are fascinating to the most casual reader.

The throne-room of King Nebuchadnezzar is 60 feet broad and 172 feet long. The walls of the room, especially at the north end of the room near the throne, are decorated with beautifully painted stucco designs which are well preserved and add greatly to our knowledge of the art of that period. The throne is placed at the opposite end of the room from the entrance. To the historian and Biblical student, this room is of the greatest interest, for it is pregnant with historic associations. Nebuchadnezzar's feast celebrating the overthrow of Jerusalem and the destruction of the Temple (B. C. 586), was held here, and also Belshazzar's last feast when Cyrus overthrew the city and the King was slain. Researches have also shown that in all probability the death of Alexander the Great (B. C. 323) occurred in this room.

Outside of the Palace there is a pavement 80 feet wide which has been uncovered for 420 feet and it is thought from the direction it takes that it extends for about a quarter of a mile and terminates in the southeast corner-mound of the ruins now being excavated. Each stone is inscribed with "I am Nebuchadnezzar, King of Babylon for the Procession of the great Lord Merodach, with blocks of stone of the mountains I have paved the street. May the Lord Merodach with everlasting life endow me." Even the small breccia pieces have a somewhat similar inscription. On this Processional Street is the Temple of Istar called the "Supreme Goddess."







FIGURE 1. THE MOUND OF KOKH FROM THE SOUTH SIDE, SHOWING THE DRY BED OF THE SMALL STREAM WHICH HAS EXPOSED A SECTION OF THE MOUND WHERE THE RED BRICK BEDS ARE EXPOSED



FIGURE 2. THE MOUND AT TADEM AS SEEN FROM THE NORTHEAST, ON BOTH SIDES ABOVE ARE PIECES OF THE ROMAN WALL. AT THE BASE OF THE MOUND IN FRONT IS A MODERN ARMENIAN CEMETERY WHERE THE GRAVESTONES LIE FLAT



# RECORDS <sup>OF</sup> THE PAST

JUNE, 1902

VOL. I



PART VI

## THE PREHISTORIC MOUNDS OF EASTERN TURKEY

BY ELLSWORTH HUNTINGTON

THE Turkish Empire is at the same time one of the best known and one of the least known countries in the world. Even now certain areas are only partly explored, especially the mountain region north of the Euphrates and Tigris rivers. This district is yielding rich archaeological rewards to the few travellers who visit it, as is well shown by the work Dr. Belck and Prof. Lehmann whose explorations during the past few years have brought to light the connected history of the Vannic tribes, the Nāiri as the Assyrians called them, the Haldis as they called themselves. These people, who from the X to the VIII centuries before Christ were the unconquerable scourge of their southern neighbors, the Assyrians, occupied nearly the same country that is now known as Armenia, and was earlier the home of a race of mound-builders.

West of the Haldis, beyond the Euphrates river lived the Hittites, the supposedly Turanian or possibly Hamitic people, who, about a 1,000 years before our era, formed a mighty empire whose sway stretched far over Asia Minor and Syria. Archaeologists have yet been able to do practically nothing toward investigating the burial treasures of either the Hittites or the Haldis\* nor of their probable predecessors, the early mound-builders.

During the years 1899 to 1901 I visited a number of the mounds in the eastern part of the Hittite country and the western part of the Haldi country.† If we exclude such places as Eyuk where the mound clearly covers an ancient temple or palace, the mounds are divisible into two classes, the first being conical on hills or mountains commanding a wide view, the second truncated cones located on the plains. The first seems to be confined to the Hittite country west of the Euphrates, the second are most abundant in the Haldi country but the two kinds occur together and cannot always be sharply distinguished.

\*See Lynch, H. B. *Armenia*, vol. ii, p. 61 ff. and numerous references to the writings of Messrs. Belck and Lehmann as given by Lynch, p. 64.

†The district traversed was about 300 miles east and west from Palu to Yozgat, and 250 north and south from the Black Sea to the edge of the great southern plains.

The conical mounds are in general more easily visited than are the others because they are located farther west and nearer to the sea. A few miles south of the port of Samsun where the mountains slope gently upward from the Black Sea, every traveller along the high road to the interior must notice two of them surmounting the hill-top and rising at an angle of perhaps  $45^{\circ}$ , so steeply at least that they can with difficulty be climbed. From a distance they seem to be perfect cones, so placed as to command a wide view toward the land and the sea including the old town and fortress of Kara Samsun 3 miles away near the sea. No others appear in this vicinity, but near Marsovan, 55 miles southwest, where the first of the great series of elevated inland plains begin, numerous mounds are found, some of which are conical and are located on hills, while others are on the plains, but none of them seem to be particularly characteristic. Others are seen in the plain of Chorum farther in the same direction; and at Kala Hissar, 100 miles south-west of Samsun, near Eyuk are two more similar in shape, size, and location to those first mentioned. Eyuk and its neighbor, Boghaz Keui, it will be remembered, are thought to mark the northern capital of the great Hittite Empire. They are famous for their bas-reliefs showing long processions of figures clad in tunics, pointed caps, and shoes with up-turned toes. The Hittites found at Kala Hissar a splendid conical mass of rock which rises precipitously 400 feet from the level upland plain, and on which they built an almost inaccessible fortress. The rock is covered with "Hittite cuttings" in the form of steps, platforms, holes, troughs and seats, and on the sides are ruined walls. The top commands a wide view to the north, west, and south, but not toward the south-east, east and north-east, where the view is cut off by a line of hills from 1 to 2 miles distant. The two mounds lie on these hills seemingly about a mile apart, and between them command a view of all the region not seen from the fortress. The one nearer to this is 40 feet high, perfectly circular in plan, and in vertical section conical except that the top is slightly rounded. The material is soil and gravel composed of pebbles of such rocks as are found in the vicinity. My companions and I could detect no special structure, nor could we find pieces of pottery or implements although we looked for them carefully.

The next mounds noted were about 50 miles south-east of the Kala Hissar between Yozgat and Karamaghara. Five hours—18 miles, east of the former place on the short bridle path to Ak Dagħ Moden,—the wagon road goes further north,—is Kerkeniz Kala, which seems to be a Hittite fortress of the same type as Kala Hissar. For 20 miles east of here stretches a narrow fertile plain from 3 to 6 miles wide, bordered on either side by a line of low mountains capped with two rows of conical mounds like those near Samsun and Kala Hissar. On each side I counted 7 or 8 placed at approximately equal distances, always in sight of one another, and commanding wide views of the surrounding country. Wishing to learn the local tradition about them, I asked a Turkish official for what purpose they were built.

"Why, don't you know?" was his reply, "They are part of the old fire-telegraph from Bagdad to Constantinople." He may have been partly right as to their purpose, although the connection between the two great cities is somewhat apocryphal. Apparently they were built as posts of observation, communicating with the castle and protecting the plain which they inclose, just as those at Kala Hissar, and perhaps Samsun also seem to have





FIGURE 3. THE MOUND AT KOKH FROM THE NORTH



FIGURE 4. NORTH SIDE OF THE MOUND AT TADEM SHOWING ARMENIAN CHILDREN AND HOUSES IN THE FOREGROUND, AND PART OF THE ROMAN WALL ON THE LEFT ABOVE

been built for the purpose of overlooking the region which is not in sight from the castle, and thus giving the defenders a virtual outlook over the whole country.

If our supposition is correct, the mounds are connected with the castles and hence are of Hittite origin, provided the castles themselves are Hittite, but this is merely a suggestion not a theory. In western Asia Minor are many Thraco-Phrygian mounds of similar structure but less striking location, which show signs of having been places of burial.\* Those which I have described may have served the same purpose, or, indeed, it may have been the custom to bury famous men on hill-tops which were also posts of observation.

The truncated, unsymmetrically conical mounds of the second class occur in the Hittite country, but are much more numerous and important in the Haldi country, where they are found on almost every plain from Malatia to Van, 300 miles farther east. They are strictly confined to the plains and seem to be found only on the great central plateau which is bounded on the north by the Pontic range and on the south by the Taurus range. They are very abundant in the region of Harput in the great bend of the upper Euphrates river where about 15 are located in the Harput plain within an area 25 miles east and west by 6 miles north and south. It is to these that we shall devote most of our attention since they have been examined more carefully and seem to be typical of the others. The majority are near the edges of the plains where springs flow out from the mountains, although a fair number are situated close to the main streams, and a few are scattered here and there. It is interesting to note that usually the villages located on, or more often near the mounds are inhabited by Armenians or occasionally Kuzzlebash Kurds, who are often merely renegade Armenians, although neighboring villages belong to Turks and genuine Kurds. Probably the Armenians, when they came into the country took the most fertile or best watered parts of the plain just as the mound-builders had done in earlier times.

In shape the mounds are quite uniform; the plan is circular or slightly elliptical and the slopes at the ends of the longer axis are unsymmetrical, one slope being nearly twice as steep as the other. [See Figs. 3 and 4.] The tops, which are of nearly the same shape as the bases, are almost flat but slope slightly upward from the side where the ascent is gentler to the edge of the steeper side. [Fig. 2.] In size they vary from 1 to 6 acres, and in height from 30 to 80 feet. In two of the largest, viz. at Ichmeh and at Telanzit [Fig. 7], the largest of all, a slight terrace is visible on the side about 15 or 20 feet above the base. The internal composition of the mounds is not clearly seen in most cases, but at Tadem and Hokh nearly perpendicular sections are exposed.

At Tadem [Figs. 2 and 4] the villagers have cut away part of the mound in order to use the soil in building their mud houses, the whole structure is seen to consist of alternate layers of fine soil and small irregularly placed, often angular stones, the layers of soil being of varying thickness, but always far thicker than those in which stones predominate and which are disjointed and irregular. Bits of charcoal and, in some cases, thin layers which extend but a few feet are found here and there, and in one place a quantity of carbonized grain was dug out. In dry weather the surface of

\*Kretschmer: *Einleitung in die Geschichte der griechischen Sprache.*, p. 174 ff.





FIGURE 5. THE VILLAGE OF GARMURI ON THE EDGE OF THE HARPUT PLAIN. THE VILLAGE IS LOCATED ON AN ALMOST DESTROYED MOUND, THE REMAINS OF WHICH CAUSE THE CENTRAL HOUSES TO STAND HIGHER THAN THOSE ON THE OUTSKIRTS. LOOKING EAST



FIGURE 6. GARMURI FROM THE NORTH

freshly opened portions is white with a deposit of potassium nitrate suggesting that the mounds contain a large amount of organic matter. Indeed, the soil of the mounds is so rich and so beneficial to crops that the villagers say that it is as good as the best manure. If the country had been inhabited by a more energetic, progressive race, these memorials of the past would long ago have been spread over the fields and lost.

At Hokh [Figs. 1 and 3] the top of the mound is 80 feet above the little brook which has undermined it somewhat at the foot of the steeper side, and although large at the base, the flat top is only 200 feet in its longest diameter. In structure this mound is like that at Tadem with the exception of one feature. Near the bottom is a bright red layer several feet thick and higher up there are two or three thinner layers all of which look as though they might be layers of brick which have partly decomposed under the influence of the weather. The villagers say that they find in the mounds red bricks about 12 inches thick. I found only small fragments which may possibly be of later date than the red layers.

Implements of stone and bone are found in most of the mounds, although those made of bone are much less common and I have personally found but one, a well polished knife. Many of the numerous stone implements are highly polished and are all carefully smoothed. The most common forms are hammers and axes, [Fig. 8] some perforated and others smooth. Pitted stones, well rounded and symmetrical, but rarely completely perforated, are very abundant, and rubbing-stones and pestles are sometimes found. There is also a curious knuckle-shaped tool whose use is uncertain. All the implements are made of trap or fine granite rocks, as no flint occurs in the region. In the mound at Ichmeh a battered bronze knife is reported to have been found. The only other articles of undoubted prehistoric origin which I have seen in the mounds are countless bones and bits of coarse pottery, sometimes an inch thick.

The mound at Garmuri [Figs. 5 and 6] has been almost destroyed by the villagers, whose houses are all built on and of it, and who make excavations every year in order to build new houses or repair old ones. In 1900 two skulls are said to have been found tied together, and several "coffins" were dug up. These I could not see because the superstitious villagers at once break such things to pieces, but two of them were described to me by an intelligent young villager, a student in Euphrates College, the American school at Harput. One was a red jar about 18 inches long and contained the bones of a little child: the other consisted of two large jars placed mouth to mouth with the bones of a man inside. They seem to be just such coffins as are found in the old "tells" of Babylonia.

During the Roman period or later many of the mounds appear to have been utilized as sites for forts or other massive buildings. At Tadem, for instance, the whole mound, 60 feet high and 300 feet in diameter, was surrounded by a wall 10 feet thick made in the most substantial manner with lime mortar, but as the stones have been carried off for use in building houses only small sections now remain. [Figs. 2 and 4.] On top of the mound are evidences of some sort of superstructure made in the same massive style as the walls, and with a hole dug down some distance in the middle of the ruin. The villagers say that they dug until they found a staircase leading down into a dark room which they feared to enter, and so shovelled the earth back over the stair-case. In the neighborhood are a few





FIGURE 7. MOUND BETWEEN TELANZIT AND KHOZEGDEG FROM THE WEST SIDE

other ruins, one of which seems to be the floor of a Byzantine church, now wholly buried, and covered by a grain field. [See Fig. 8. Nos. 2 and 15.] At Kalushaghi a mound of equal height and greater extent is inclosed by a similar wall, but no part of the interior was examined to see whether pottery and stone implements could be found which would prove its prehistoric origin.\* On top of the mounds ruined superstructures are found at Hokh, Ichmeh and Telanzit where, as at Tadem and Kalushaghi, Roman coins are occasionally unearthed.

An interesting suggestion of the conditions under which the mound builders lived is given by a small insignificant mound at Ellimelik,  $\frac{1}{2}$  mile from the Euphrates river. Its shape is less regular than that of the larger mounds and one side has been undermined by a mill-race so as to expose a vertical section which everywhere, from top to bottom, contains bits of pottery. Twelve feet from the base is a level layer of fine water-rolled gravel 2 inches thick which seem to extend across the whole mound and could only have been deposited in a fair sized body of water having considerable movement, either because of current or waves. Above it are 18 feet more of soil and fragments of rock and pottery. Apparently after men had occupied the mound long enough to build it up to a height of 12 feet, some body of water covered it, deposited the layer of gravel and perhaps some finer material and then retired, after which men again occupied the site and added 18 feet more of material. What the cause of this inundation was we cannot say with certainty, nor is one isolated example a broad enough basis for generalization. One thing at least is certain: the geographical

\**Verhandlungen der Berliner anthropologischen Gesellschaft.* 1900 p. 142.

conditions of that time were different from those of the present. The narrow valleys cut in the bottom of old valleys, the side streams cascading into the main stream, and the shape of the great canyon of the Euphrates river all seem to show that in very recent times, geologically speaking, the region 20 or 30 miles to the south, where the Euphrates river has cut its great gorge through the Tarus mountains, was warped and elevated in such a way that the river could not always cut down its channel as fast as the mountains rose.\* Hence the basins along the upper course of the river were in part converted into lakes the level of which fluctuated according as the uplifting or erosive forces prevailed in the canyon. We may possibly find, as our knowledge of the country increases, that man lived on the earth during the last of these changes, and the mound at Ellimelik may have stood on the edge of one of the last lakes.

The purpose of these truncated conical mounds is not fully understood, nor do we know exactly who made them. Dr. Belck,† who found a large number in the plain of Mush, thinks that they are the places of burial of the earliest Armenian kings, and bases his argument on the fact that they are most abundant in that plain which Armenian tradition designates as the first home of the Armenians. As a matter of fact they are equally abundant and of much larger size in the plain of Harput, so that the argument falls to the ground. It is certain, however, that the mounds were places of burial, although they may have served some other purpose also; and it is not impossible that they were built by the ancestors of the Armenians. The earliest known inhabitants of this region are the so-called Tharco-Armenians who probably came from the Balkan peninsula and spread through Asia Minor in the second and third millenniums before Christ. Another branch of this Aryan stock, the Thraco-Phrygians, are supposed by Kretschmer [See ante p. 166] to have built the small mounds of western Asia Minor; while the Thraco-Armenian branch came further east and may possibly have built the mounds which we have been considering. Other suppositions are, however, possible, and we have seen that there may be a connection between the mound-builders and the builders of the so-called "Hittite castles." Until the mounds are more fully investigated we can only conjecture as to who were their builders.

We can, however, be reasonably certain that the mound-builders were to some extent influenced by their neighbors in Babylonia or Assyria, or else immigrants from those countries invaded the northern region. This is shown by the layers of brick in the mound at Hokh, and by the coffin jars at Garmuri, both of which are distinctly characteristic of the Babylonian mounds. The method of burying the dead in two jars placed mouth to mouth was common only among the earliest inhabitants of Babylonia; and the finding of such jars is an indication that the mounds of Armenia were built at least 2000 years before Christ. In connection with this Babylonian influx it is interesting to note that its influence seems to be confined to the place where the Tarus range is narrowest and most easily crossed. It is very easy to come from Mesopotamia up the Tigris valley to Lake Gyuljuk and thence into the Harput plain; and just where this easiest road enters the plains of Armenia we find not only the largest mounds, but those which show signs of the culture of the south.

\**Geographical Journal*, 1902. The Great Canyon of the Euphrates River.

†See *Verhandlungen Berliner anthrop. Gesel.* 1899. p. 663.



Although the conical mounds on the hills in the country of the Hittites may possibly have been built by that people, and are well worth study, those on the plains especially in the Haldi country, are far more important. Their location in the best parts of the plains where now the Armenians have settled, their regular shape, flat-topped and unsymmetrically conical, their large size, the implements of stone and bone, the pottery and coffins, the more recent additions, the physical conditions of the country at the time of their building, their purpose, the race of their builders, and the influence of the Babylonians all furnish fruitful fields for further exploration. Much remains to be done in the way of examination of the parts that are now exposed to view; and when the mounds are excavated who knows how much they may tell of the early dwellers in this historic land?

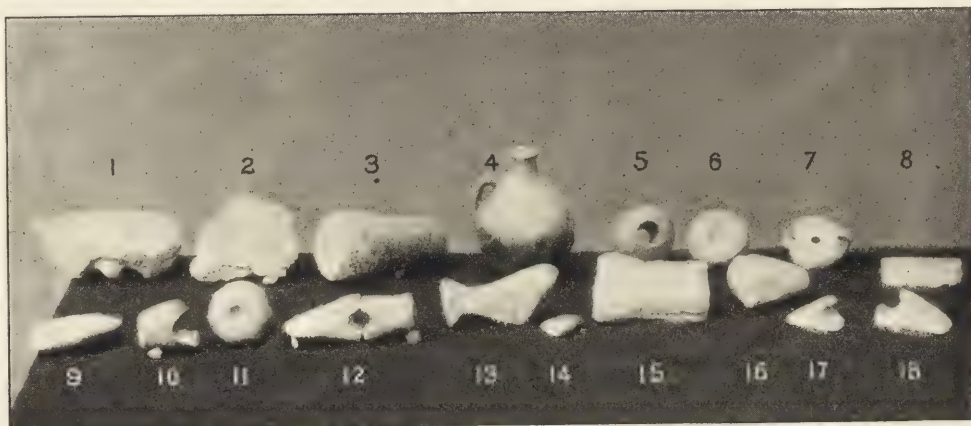


FIGURE 8. STONE IMPLEMENTS AND OTHER ARTICLES FROM THE MOUNDS OF THE HARPUT PLAIN, NOW IN THE MUSEUM OF THE EUPHRATES COLLEGE, HARPUT, TURKEY

1. Stone salt-cellar. Garmuri; 2. Bit of stone mosaic from the floor of a Byzantine (?) church near Tadem; 3. Stone pestle. Garmuri; 4. Earthen jug (possibly modern). Garmuri; 5, 6 and 11. Pitted Stones. Garmuri and Hokh; 7. Stone lamp. Garmuri; 8, 9, 10, 12, 14, 16, 17, 18. Stone hammers and axes. Garmuri, Hokh, Tadem; 13. Knuckle-shaped stone implements. Hokh or Garmuri; 15. Carved stone from a Byzantine (?) church. Tadem; 1, 2, 4 (?), 7 and 15 do not belong to the prehistoric period.

[Photographed by Mr. Garabed Soghigian.]



FIGURE 1. THE TEMPLE AT THE BASE OF MAGA-LAKKOS. THE PLATEAU OF THERMOS WITH MT. PANAITOLIKON AND KEPHALOVRYSSIS



FIGURE 2. THE TWO TEMPLES WITH THE ELLIPTICAL BUILDING



## THE GREEK EXCAVATIONS AT THERMOS

BY GEORGIOS SOTERIADES

*Ephor of Antiquities, Thermos, Greece\**

FROM a passage of Strabo [X, 3, p. 463], and from various passages of Polybius, especially from the fifth book of the latter [chs. 6, f.], it has been known that Thermos (Strabo calls it Therma, as does Polybius once, in V, 6, 7) was the political and religious centre of the Ætolian league, which flourished in the III and in the beginning of the II century before Christ.

Archæologically, however, Thermos had stirred the interest of no investigator until 1897.

Indeed there was uncertainty even as to its location. Since it was commonly regarded a city, some thought it most appropriate to identify it with the acropolis, a little distance from the present Agrinion, which rises to a height of 600 meters and is named today Vlochós. The walls of this acropolis are very strong, 3 meters thick and of very massive stones, and have a circuit of about 4 kilometers (2½ miles). But in fact this city is Thestieis, as I was assured by an inscription which I found there.

Now the careful reading of the account of Polybius in book V, ch. 6 will convince any one: 1, that Thermos was not a city but a place; 2, that it was situated not at Vlochos but at the eastern end of Lake Trichonis. Investigation on the spot had persuaded me already in 1896 that this place was certainly the quite spacious, well-planted and well-watered plateau which extends between the villages of Petrochóri and Kephálóvrysis. In the eastern part of this plateau at the base of the mountain Mega-Lakkos the existence of ancient ruins had been noted by travelers. These ruins formed a quadrangular enclosure 340 meters in length and 200 in width (1115½ x 656 feet). The walls built of massive stones are preserved to the height of a man and have a width of 2.50 meters. Figures 1 and 2 show stretches of the plateau with the village of Kephálóvrysis (to the north), the heights to the south, and the northern line of the walls of the enclosure.

This enclosure, according to the statements of Polybius, included temples, particularly a temple of Apollo, porticoes (stoas) and certainly many other public and private buildings. For here were held the annual general assemblies and festivals of the Ætolians. Here the conventions of the league met and the elections of magistrates took place. The place was most wealthy, for the Ætolians deposited here, as in a safe citadel, whatever valuables they had. Polybius notes especially the costliness of the monuments; he mentions 2000 statues which the Macedonians overthrew, when they captured Thermos. For Thermos twice suffered an attack of the Macedonians in the reign of Philip V, in 218 and 206 B. C. Philip burned up and overthrew whatever he found here; he spared not even the temples.

\*Translated from the Greek by Arthur Stoddard Cooley, Ph.D.

When in 1897, at the expense of the Greek Archæological Society, I undertook the first trial excavation, the whole sacred precinct was covered with plowed fields and meadows. Only in a ruined chapel near by were seen a few ancient hewn stones. But in the southern part of the precinct could be distinguished a rather extensive structure of great length. This was named by the inhabitants of the region Palaiobazáro (the old Bazar).

I began the excavation on the eastern side. This work uncovered the foundation of a long portico, 173 meters (568 feet) in length. This preserves in many places its 5 steps. The columns were Doric, of porous stone with a coating of white plaster, but only a few drums and capitals have been preserved. The portico has a width of 13 meters (42½ feet). Most probably it had a double row of columns, but the inner part is still covered by a field.

In front of this portico were found, very close to one another, bases of statues and exedrae. But at the southern end of the portico two large buildings with gateways enclosed a broad square. In front of these buildings, again, close to one another stand bases of statues, many indeed equestrian. Beside them were found different fragments of the bronze statues, especially fingers, the hoof of a horse and such things. Since also a second series of bases is being excavated today parallel to the first, one easily understands how the 2000 statues which Polybius mentions could in fact adorn this splendid place.

All these buildings must be supposed to belong to the III century B. C., because it is exceedingly doubtful if the Ætolians before this century had the means to develop at Thermos such activity in building. And the inscriptions, as many as have been preserved on the bases of the statues, are all of the III century and mostly of its second half. These inscriptions are decrees of *proxeny* name of the man to whom the statue was erected. On one base is inscribed also the name of the artist who made the statue, ΗΡΑΚΛΕΙΔΗΣ ΕΠΟΕΙ (Herakleides made it). On another is ΛΥΣΙΠΠΟΣ ΕΠΟΗΣΕ (Lysippos made it). If this name refers to the great Lysippos, then even in the IV century B. C.—and indeed before 320—there were not lacking in the precinct of Thermian Apollo most beautiful monuments of art.

These ruins which were uncovered established the credibility of the quite clear statements of Polybius about the buildings of Thermos. But those found later cast unhoped-for light on the much older history of Ætolia, a history absolutely unknown from the historians. And they also illuminated a hitherto dark chapter of the archaic art of Greece in both sculpture and painting.

All these finds were furnished by the temple, which was discovered in the north-east corner of the precinct and immediately at the base of Megalakkos. Figure 1 shows two temples. Of the smaller no account will be given, for of it nothing has been preserved but the walls seen in the picture. The larger is surely the temple of Apollo. I judge this from two inscriptions found within it. No other temple has been found in the precinct; perhaps, indeed, there never was another.

The temple was covered in part by a very light stratum of good soil which was ploughed in part by a deep accumulation and particularly by great heaps of broken stones. When the soil was cleared away, the entire plan of the temple was presented, as appears in the illustration.





FIGURE 3. THE FOUNDATION (STEPS) OF THE PORTICO



FIGURE 4. THE RESERVOIR. ABOVE, THE TEMPLE AND HOUSES OF THE CUSTODIANS AND THE EPHOR

It is a Doric peristyle temple with 15 columns on the long sides and 5 on the narrow ends. Its length is 38 meters (125 feet) and its breadth 12 (39½ feet), the orientation being exactly from south to north. The cella is narrow (4.60 meters = 15 feet) and long (28 meters = 87 feet). No pronaos can be made out, but there is an opisthodomos. The cella has throughout its length and down the middle a row of 10 columns. The entrance, from the south, had two doors, one on either side of the column.

This plan is very closely akin to that of the most ancient temples of Selinous. The columns in the centre of the cella the temple of Thermian Apollo has in common with the temple of Neandria (of the VII century), with the older of the two temples of Locri and with the enneastyle temple of Paestum (the so-called "Basilica"). Its orientation toward the south it has in common with the Etruscan temples.

Yet a close examination of the stones of which the stylobate and the walls of the cella consist proved that all these were taken from destroyed monuments of the III century. Others had cornices such as stones of other monuments of Thermos from the same III century have, and all these are turned upside down and broken. Beside this neither the stylobate nor the walls of the cella have properly a foundation, but both consist of one tier of stones or two at the most. Only the western stylobate has one step and a leveling course (euthynteria). The existing drums of the columns which appear in the picture have only a few very shallow flutes.

These things show sufficiently that the discovered building cannot be older than about 200 B. C. I have conjectured, therefore, that after the savage destruction of Thermos by Philip V in 218 and 206 B. C. the Ætolians rebuilt an older temple with the material of the destroyed monuments. But of what sort was this older temple? Fortunately the subsequent finds in the excavation give us a complete and clear idea of it.

All the floor of the temple I found covered by a thick stratum of ashes, coals, half-burnt beams, large nails, a countless number of roof-tiles and many fragments of cornices of decorated tiles, beside various other pieces of painted terra-cotta, such as cornices and artistic palmettes. Not a trace of a stone architectural member was found. These terra-cottas belonged manifestly to the sheathings of the temple, which was of wood. From the excavations of Sicily and of Olympia we knew of temples and other buildings (such as the Treasury of the Geloans, etc.) of porous stone with sheathings of terra-cotta. Now at Thermos we have found a temple entirely of wood with such sheathings.

One would think, perhaps, that these terra-cottas and the ashes, beams and roof-tiles belonged to the temple which, as I said above, the Ætolians rebuilt about 200 B. C., if not much later.

But this is impossible: 1, because the splendid workmanship and ornamentation of these terra-cottas has nothing in common with the very cheap restoration of the temple with miserable broken pieces of stones from other buildings. Ornamentation and technique resemble completely what we know from the Treasury of the Geloans at Olympia (about 600 B. C.) and from the most ancient temples of Selinous. 2, Because in the ashes was found a bronze stele damaged by fire, bearing inscriptions of the first half of the III century. 3, Because the roof-tiles are in form and technique and clay incomparably better than the roof-tiles of the buildings of Thermos which are of the III century. 4, For the following reason:—





FIG. 5. ARCHAIC HEAD OF A WOMAN (FACE-TILE)

FIG. 7. HEAD OF A WOMAN (V CENTURY)

FIG. 6. HEAD OF A MAN (V CENTURY)

FIG. 8. HEAD OF SEILENOS

Outside of the eastern, northern and western stylobate and always immediately beside it were found many dozens of upright cornice tiles with low-relief heads of men and women of the archaic type of the VI century B. C. and some heads of Seilenoi [Figs. 5, 6, 7, 8] and also a few heads of men and women of the V century B. C. Beside these were very many fragments of clay tablets with scenes, 5 of which have been fitted together, likewise of the technique of about the middle of the same VI century. They are in size nearly a meter in length and breadth and 5 to 7 centimeters (about 2½ inches) in thickness.

It is therefore unquestionable that all the finds of the thick stratum of ashes and coals which covered the floor of the temple belong to the older building.

This cannot be later than about the middle of the VI century B. C., to which belong the most of the face-tiles, and it was entirely of wood. The painted tablets were its metopes wedged in between beams. The triglyphs here must also have been of wood with sheathing of terra-cotta.

A fragment of the metope which represents two female forms holding something before them is shown in figure 10. Above the head it bears the inscription *Χελιδρόν*, (i.e. *Χελιδών*, Swallow, probably the woman's name.—A. S. C.)

After the burning and destruction of the temple in 218 or 206 the Ætolians built on the same site as that of the old temple a cheap restoration. Of what sort this was we do not know, for nothing has been preserved of it except the stylobate, the walls of the cella and the lowest drums of the columns of the peripteros.

However, that the older temple of the VI century was also peripteral and of exactly the same size is shown by the metopes and the place of their discovery as well as that of the upright tiles. I consider it indeed most probable that some bases of the wooden columns of the peripteros of the older temple are preserved in the western stylobate. For these bases resemble the bases of the wooden columns of the Homeric palace of Tiryns and those preserved on the acropolis of Athens beside the Erechtheion within the old temple of Athena.

In Ætolia in the V century B. C. the people still lived only in unwallled villages and were still so rude and uncivilized a people that Thucydides [3, 94] says that the Eurytanes, the largest tribe of the Ætolians, "were most unintelligible in tongue and eaters of raw flesh." And yet even here at a quite early date, i. e., at the beginning of the VI century, Greek art had reached its height as in the then most splendid centres of Greek civilization, especially Corinth.

Until but a short time ago we knew this art really only from the colonies in Sicily and lower Italy. Its influence was great also in Etruria. Already about 600 B. C. it had been carried thither by the Corinthian Demaratos, who was accompanied by the artists Eucheir and Eugrammos.

But in all the journeying of their trade to the West the Corinthians must have carried with their colonies and their trade also this art. From the coast of Ætolia where they had their trading-posts it was carried over to Thermos. Corinthian artists must have established it here also, bringing over the moulds all prepared for the face-tiles and sketches for the paintings. Indeed moulds were found at Thermos. The clay is the local clay of Thermos, but for the surface they used a thin layer of the beautiful, clean, whitish-yellow clay of the well-known Corinthian earth.

In the tradition in Pliny [Nat. Hist. 35, §151] about the Sikyonian Boutades, who invented at Corinth the art of fashioning figures in clay, is hidden an undoubtedly historic truth. And the use of wood for the construction of the most ancient Greek temples finds its clearest proof in the temple of Thermian Apollo.

After the floor of the temple had been carefully cleared of all the remains of this old temple of the VI century, I noticed under the eastern wall of the cella rather near the opisthodomos a great pile of ashes mixed with an immense number of burnt bones. Removing these ashes gradually I kept on to a depth of about two meters. The earth below had been changed into brick by the action of the fire, for the soil of Thermos is all red clay mixed with very small particles of iron pyrites. I examined the bones and found that they were all of domestic animals and fowls.

So great a heap of ashes with an immense number of such bones it was not possible to explain otherwise than as an altar. This altar then existed





FIGURE 9. ROOF-TILE WITH THE MOST ARCHAIC HEAD

first and later the temple of the VI century was built over it. In this heap I found also many bronze objects such as horses (in spans), wheels of little chariots and idols such as those known from the altar of Olympia, as well as some small fragments of geometric vases.

I continued the excavation over the whole extent of the temple and outside of it under the floor and everywhere I found an extensive stratum of similar ashes and numberless fragments of burnt bones. It is plain, therefore, that gradually the ashes spread out from the altar and were scattered to a considerable distance, forming quite a thick layer. In all this stratum of ashes I found fragments either of the cheapest vases, such as those called "Lydian" by Schliemann, or of geometric pottery. I found also a bronze sword and other swords of iron.

Up to this point the matter was clear. There existed here previously, as we have said, an altar, just as in the Hera temple at Olympia. Afterward the temple of the VI century was built upon its site.

But the excavation showed also another thing.

Under the temple of the VI century I found walls forming a long building. Its orientation is not exactly the same as that of the temple. It forms a long hall with a kind of vestibule at the northern end.

What was this building? I conjecture that it was the oldest temple built in this place. And thus we can conclude as follows as to the order of the buildings here: First and in the oldest times there was an altar, perhaps near the sacred tree within the sacred grove where the earliest inhabitants worshipped their god without any image, without any temple. Secondly, there was built at some period between say the X and VII centuries the temple of which nothing has been preserved but the walls as they appear in the plan. Thirdly, there was built over it in the VI century the temple

from which we have the terra-cotta sheathings, the metopes and the face-tiles. Fourthly, after the burning of this in 218 or 206 the Ætolians rebuilt it again, and of this last building are preserved the stylobate, the few column-drums and the walls of the cella.

That the Ætolians built buildings at Thermos also in the VII or VIII century is witnessed by the colossal tiles, one of which is shown in figure 9. I found them near the temple, but their form, size and technique is wholly different from that of the roof-tiles of the temple of the VI century. The face in figure 9 is of the type of the Daidalean statues. Likewise I found a stone base for a wooden column of very great diameter, and among these tiles a massive terra-cotta triglyph of similar technique. These tiles are of the local clay, but have a very thin layer of white earth as a kind of coating on which were laid the colors.

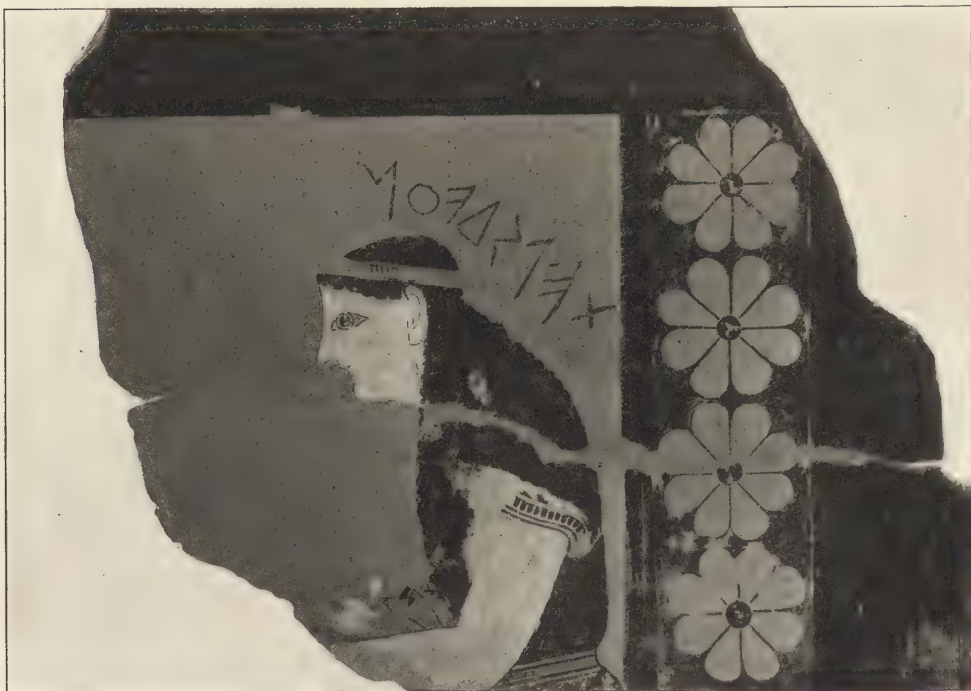


FIGURE 10. FRAGMENT OF A METOPE

The elliptical building seen in figure 2 is older than the temple of the VI century, because its walls extend under this temple. In it I found 3 graves of burned bodies and fragments of geometric vases. In one grave I found also a golden tettix, evidently from the hair of a woman. This building resembles the bouleuterion (council-hall) of Olympia.

It is worthy of mention that also around the most ancient temple, surrounding it in an ellipse, are to be seen circular stone bases for wooden columns. Could this have been a kind of primitive colonnade of that most ancient temple? So much only is certain, that this elliptical peristyle has no connection with either the temple of the VI century or the altar.

Figure 4 shows an ancient reservoir in the bottom of which springs abundant water. It was not a mere basin but a spring, and it appears that they drew the water from above.



The existence of both statues and reliefs of terra-cotta is proved by various fragments of them which have been found. Perhaps, indeed, the pediments of the temple of the VI century had terra-cotta statues, as I conjecture from certain finds. Not a single trace of stone sculpture was found anywhere in the sacred precinct.

In regard to the inscriptions discovered I observe that none goes back farther than the first quarter of the III century, if I except that in which Lyippos is mentioned as having made the statue. Only on a fragment of a stone jar (pithos) I found the remains of an inscription, probably a name, in the oldest Corinthian characters. The E has the form (X). The dialect of the inscriptions—the most are decrees of *proxeny*—is the koiné with a Doric tinge. The most important of all is the inscription on the bronze stele, which bears the title: *Compact and Alliance between the Ætolians and the Akarnanians*.

\* \* \* \*

#### ARCHAEOLOGICAL HISTORY OF OHIO\*

UNDER this title the Ohio Archæological and Historical Society has just published a volume of seven hundred and seventy-six pages, prepared by Mr. Gerard Fowke. In addition to thorough acquaintance with the literature of the subject, Mr. Fowke has the advantage of being a practical surveyor and of having spent much time in the actual survey of the remarkable mounds and earthworks which are found in Ohio. The number of these mounds is said to exceed 10,000; while in extent and complication of structure the earthworks exceed all others found in the United States. Naturally the mystery attending these prehistoric structures has attracted the attention of a great variety of writers, many of whom have formed theories concerning them which have little connection with the facts themselves. It was with the purpose of sifting these theories and getting at the regular facts which have been brought to light by competent explorers that this volume was prepared. A good share of the work of Mr. Fowke has therefore been to correct the errors concerning them which had become current, and to dispel the illusions freely indulged in by the majority of those who have written upon the subject.

A prominent error respecting the earthworks and inclosures relates to the mathematical accuracy of their construction. None of them are laid out with sufficient regularity to imply the use of anything but the rudest methods. Their squares are not squares, and their circulars are far from being regular. Nor is there any evidence of the employment of any tools more effective than rough stone implements, or the employment of any means of transporting the earth other than baskets. In all cases, also, the material for the earthworks has been obtained from the immediate vicinity.

Extensive as the works are, their construction, he thinks, is not beyond the ability of a moderately sized Indian village during a comparatively short period of time. The Fort Hill embankment is estimated to contain 50,856 cubic yards of material. With the means at their disposal, 250 Indians could have easily constructed this "inside of 6 months."

\**Archæological History of Ohio. The Mound Builders and Later Indians.* By Gerard Fowke. Published by the Ohio State Archæological and Historical Society, 1902.

Nevertheless, these structures may well continue to excite the wonder of archæologists. Fort Ancient, in Warren County, is an irregular promontory 250 feet above Little Miami River, surrounded by walls and earthworks measuring 18,712 feet in length. Fort Hill, in Highland County, is a flat-topped summit of 35 acres, completely surrounded by walls and earthworks measuring 8,582 feet in length. The stone fort at Glenford, Perry County, contains 20 acres, at the summit of a hill 300 feet above the surrounding level. The fortified hill in Hamilton County contains 12 acres; a similar one near Granville, Licking County, contains 18 acres; one in Butler County, 28 acres; one in Miami County, 18; and another near Dayton, 24 acres.

Of the inclosures upon low lands, those of from 3 to 5 acres are too numerous to mention; while one in Green County has 12 acres; one in Franklin County, 8 acres; one in Montgomery County, 31 acres; one in Butler County, 95 acres; one in Clermont County, 50 acres; one in Ross County, 111 acres, besides two others nearly as large, and 8 others ranging from 13 to 28 acres each, and the complicated works of the Harkness Group inclosing more than 70 acres. Indeed, in Ross County, for 12 miles along the valley of the Scioto, and 6 miles along Paint Creek, there is a continuous succession of extensive and complicated earthworks.

In Pike County the combination of square and circle joined by parallel embankments includes more than 30 acres. Near Portsmouth extensive and complicated earthworks include areas of 35 acres connected by parallel embankments extending to the Ohio River, with corresponding ones upon the Kentucky side. The symmetrical works at Marietta include squares of 50 and 27 acres, with mounds of various shapes and a graded way leading to the Muskingum River. In Newark, Licking County, "mile after mile of embankments, circles and other geometric figures, parallels, lodge-sites, and mounds, covering an area of more than 4 square miles, amaze the archæologist and curiosity seeker alike as they spend hours and days in traversing the ground in every direction, constantly finding something worthy of investigation and description."

The most remarkable effigy mound is the Serpent of Adams County, which has been explored and restored by Professor F. W. Putnam, and presented to the State of Ohio. This is situated upon a rocky promontory overlooking Brush Creek, and has a total length, when measured along all its coils, of 1300 feet. Near Granville, Licking County, there is an effigy 250 feet in length, representing probably an opossum, though it was formerly supposed to be an alligator; while near Portsmouth there is an effigy 105 feet in length supposed to represent a bear.

From this simple but incomplete enumeration of facts it is clear that the mounds and earthworks of Ohio have justly excited the interest which has been aroused by them. But this interest has not led to any satisfactory solution of their purpose or origin. The result of Mr. Fowke's discussion is almost purely negative, showing how unsatisfactory every theory is. His conclusions are that the mounds which were supposed to be for the purpose of signalling from one prominent point to another would be of little service for that purpose; that the extensive earthworks upon the low lands are neither appropriate for fortifications of defense, for the support of temporary structures for habitation, nor for the promotion of religious cere-



monies. But the fortified hilltops were adapted to be of service for temporary defense. They are, however, ill adapted for sustaining long sieges, on account of the impossibility of obtaining water.

The most probable theory for the most of the mounds is that they are the burial-places of distinguished members of the tribes. One of these, the Hopewell group of mounds in Ross County, has yielded the most remarkable collection of implements and ornaments supposed to have been buried in honor of the dead. Eight thousand one hundred and eighty-five flint discs, each weighing about one pound, the material of which came from more than 200 miles to the southwest, were, however, probably cached to be worked over into implements. But various ornaments were doubtless for memorial purposes. Among these were large numbers of spool-shaped copper ear-ornaments and various other ornaments of copper wrought into tasteful shapes. Numerous thin pieces of copper were cut into the shape of the Swastika cross; while pieces of mica were cut into fair resemblances to fish. A skull of a skeleton was covered with a wooden head-dress with branching horns like the antlers of a deer, all encased in thinly beaten copper. Large numbers of finely wrought obsidian arrowheads and spearheads were also found, together with shell ornaments from the Gulf of Mexico.

These discoveries are doubly interesting for the light they shed upon the extent of the commerce of that time. The flint discs found in such large numbers in the Hopewell Mound are supposed by Mr. Fowke to have come from the vicinity of Louisville, Ky. The mica probably is from North Carolina, the shells from the Gulf of Mexico, the copper from Lake Superior, and the obsidian from the Yellowstone Park, or from some place equally distant in the southern part of the Rocky Mountains. The skill shown in the manufacture of the ornaments is such that some at first maintained that they were machine made and must be of European manufacture. But closer examination demonstrated that they were hand made, and that there was no reason to doubt their native origin.

The wonder in the study of all these remains, (both the monuments themselves and the implements) is that so much could be done with the clumsy tools at the disposal of the Mound Builders. There is no indication of their having used iron or of their having melted copper. All the copper implements and ornaments were hammered into shape, but the hammering must have been done by pebbles rounded in the streams or worked into shape by flaking and grinding. The dirt of which the mounds and earthworks were made must have been loosened by stone implements, and the forests cleared by building fires at the base of the trees and removing the charred portions by the rudest means.

The Mound Builders, like all established tribes, knew how to make fire by friction, and were very skillful in the application of fire to various purposes. At Flint Ridge in Licking County, for instance, 100 acres have been dug over to find the veins of flint which occur, and deep holes excavated in the solid rock to obtain material best fitted for use. Some of these pits were from 12 to 80 feet in diameter and 20 feet in depth. The work was effected by building fires upon the surface, and then throwing water upon the rock while it was hot, causing it to shatter; when the fragments were removed, and fire and water again applied.

The nearest approximation which can be made to the age of the earthworks is that they are older than the period of the discovery of America by Columbus. The efforts to estimate the antiquity earlier than that date from the size of the trees and from the distribution of the different kinds of trees is thought by Mr. Fowke to be futile. For the origin of the Mound Builders Mr. Fowke is inclined to look to the various tribes of Indians which have developed in the Mississippi Valley, and does not think it necessary to attribute them all to any one tribe. The hill fortifications may well represent temporary places of defense constructed by more warlike tribes from the north, while the inclosures in the river valleys were connected with the more permanent residences of tribes that had become sedentary in their habits. To maintain this theory, Mr. Fowke dwells at great length upon the praiseworthy characteristics of the Indians, showing from a vast accumulation of statistics that they are more industrious than they are generally reputed to be, and instancing such remarkable characters as Tecumseh, Pontiac, and Joseph to show the possibility of organized efforts sufficient to accomplish all the results apparent in the mounds of the Mississippi Valley.

It is well to have this careful collection of facts bearing upon every side of the problem of the Mound Builders, even though the results are mainly negative. There remains yet a vast amount of work to be done in exploring other mounds and earthworks, and in comparing material already in hand with that which is being collected in other parts of the world. We think Mr. Fowke fails to recognize the full significance of various striking resemblances between these American relics and those from other parts of the world. The Serpent Mound can scarcely be thought to be an original invention. The Swastika cross has been traced by the late Dr. Thomas Wilson well nigh around the world, being found in greatest profusion and variety in the earliest ruins of ancient Troy; while the exact resemblance between the palæolithic implement found by Mr. Mills in Newcomerstown, Ohio, and others found in the valley of the Somme in France could scarcely have originated by independent invention.

But Mr. Fowke has had full opportunity to give his own interpretations and publish his own views upon these controverted questions, and has produced a volume which is well worthy of the enterprising Society which is setting about the more systematic and thorough exploration of the antiquities of the state.



## Notes

THE SULTAN HAS AT LAST GIVEN HIS PERMISSION to the Danish expedition to excavate on the Island of Rhodes. The archæologist, Dr. Blinkenberg, who is in charge of the expedition left Copenhagen in May for Lindos where the excavations are to be carried on. This town is on the northeast coast of the island which is rich in ruins.

SIGNOR BONI HAS RECENTLY made an important discovery in the Roman Forum bearing on the question as to the Aryan origin of the founders of Rome. It is a "prehistoric tomb, believed to date approximately from the VIII century B. C., containing a large urn, or *dolium*, of black ware full of calcined bones, and several reticulated, egg-shaped vases, besides a bowl and a cup with horned handles like those found in the terremare of the Bronze Age. The tomb is situated in the bed-clay some 12 feet below the level of the Sacred Way, opposite the Regia, and close by the Temple of Antoninus and Faustina."

THE LAKE DWELLINGS discovered at Roulers in Belgium are of especial interest because of the great variety in the remains found, which indicate that the locality was inhabited by Lake Dwellers from neolithic to quite modern times. The finds include flints, discoid scrapers, arrow-heads, chips, polished axes, bronze ornaments, wheel made vases, and a bronze coin bearing the impress of the Emperor Trajan (98 to 117 A. D.), a blue glass bottle and varnished pitchers which do not date earlier than the XIV or XV centuries. A skeleton found here has been studied by Dr. E. Houzh who thinks that it belongs to the "brachycephalic neolithic race of ancient Belgium."

THE GERMAN ORIENTAL SOCIETY has already brought to light 400 inscribed clay slabs from the center of the ruins of Babylon at Nischan-el-aswad. Two of these inscriptions have been deciphered. One is an ancient dictionary of Babylonian cuneiform characters and so is of great value. The second contains the "litany" which was chanted by the singers of the Temple of Esagila on the return of the god Marduk to his sanctuary. Marduk or Merodach, was the son of Ea, and one of the 12 great gods of the Assyro-Babylonian Pantheon. In Jeremiah 1. 2, he is mentioned in connection with the prophesies of the destruction of Babylon. The Society has made other important discoveries among which is a "Temple of Ador or Nineb, the Tutelar god of physicians, hitherto quite unknown." Also an amulet to protect the wearer from demons.

IN NEW MEXICO there are a number of stone circles which Mr. A. M. Swan describes in the *American Antiquarian*. Concerning the one in Socorro Co. he says: "The interior of this circle is about 40 feet and has been surrounded by an outer circle. The inner circle is in the best state of preservation, most of the upright enclosing stones being still intact. \* \* \* In the center of this circle there are 4 upright stones forming the 4 corners of a square which have been capped by a large flat stone now broken in two but the edges are still supported" forming what the English would call an Altar Stone. Others in Bernalillo Co. and one in Navajo consist of lines of upright stones. In the latter place the stones are set at equal distances from each other and cover, according to the survey by Col. Walter G. Marman, nearly 100 acres. These rows are parallel and run east and west.

MR. JOSEPH OFFORD in the *Proceedings of the Society of Biblical Archaeology* for March calls attention to the fact that although two-wheeled chariots have usually been considered as of earlier date than four-wheeled ones, yet in the oldest representations of chariots we have some examples of those with four wheels. He mentions two Babylonian cylinders in the British Museum showing four-wheeled chariots drawn by 4 horses, another cylinder belonging to Dr. Hayes-Ward which shows a similar chariot, and a drawing found on the bandages of an Egyptian Mummy showing a funeral boat supported on 4 wheels.

IT IS GRATIFYING to note that the newspapers in our Southwest are taking up to some extent the cause of the protection of their ancient pictographical and other prehistoric records. These are so important that public sentiment not only in the Southwest, but all over the country should be aroused for their protection. We heartily endorse the statement made by Mr. E. S. Curry that "In the very near future these records will be appreciated, and will be justly regarded as of equal value and importance with the ancient records of Egypt and Nineveh." It is to be hoped that all educated people will bring pressure to bear on the legislatures of our several states as has been done in Ohio so that laws may not only be enacted, but enforced for the preservation of these historical records which in a few years, unless something is done, will be obliterated beyond the possibility of replacing or restoring. We would call attention again to the suggestion for a national law for the preservation of our antiquities which was published in the first article of the January issue of RECORDS OF THE PAST.

IN THE FIRST CHAPTER of Professor Edward Dickinson's most interesting and instructive volume on "Music in the History of the Western Church," are some interesting things relating to the light shed upon ancient music by the character of the instruments which are found sculptured upon ancient monuments.

That music was always performed in unison and octaves, as has been generally believed, is, however, not probable. In view of the fact that the Egyptians possessed harps over 6 feet in height, having 12 or 13 strings, and played with both hands, and that the monuments of Assyria and Egypt and the records of musical practice among the Hebrews, Greeks, and other nations show us a large variety of instruments grouped in bands of considerable size, we are justified in supposing that combinations of different sounds were often produced. But the absence from the ancient treatises of any but the most vague and obscure allusions to the production of accordant tones, and the conclusive evidence in respect to the general lack of freedom and development in musical art, is proof positive that, whatever concords of sounds may have been occasionally produced, nothing comparable to our present contrapuntal and harmonic system existed. The music so extravagantly praised in antiquity was, vocally, chant, or recitative, ordinarily in a single part; instrumental music was rude and unsystematized sound, partly a mechanical aid to the voice and the dance step, partly a means of nervous exhilaration. The modern conception of music as a free, self-assertive art, subject only to its own laws, lifting the soul into regions of pure contemplation, where all temporal relations are lost in a tide of self-forgetful rapture,—this was a conception unknown to the mind of antiquity.

THE BIRTH-PLACE AND ONE OF THE BURIAL-PLACES OF BUDDHA although known for some time have but recently been brought to the attention of the general public. According to the Book of the Great Decease, Buddha was cremated and his ashes divided into eight portions which were distributed to the King of Magadha and the "seven free clans, including the Sâkyas, who occupied the adjoining country." Each of these clans put up a stupa, or cairn and established a festival in his honor. Mr. Wm. Peppe in 1897 excavated a ruin stupa in which he found beneath 18 ft. of solid brick work a stone slab which proved to be the cover of a stone box. This was broken but fitted so perfectly into a groove around the sides of the coffer that he could remove it without injuring the contents of the box, which was hollowed out of a solid block of sand stone and weighs 14 cwt. "Inside this massive and costly coffer were 3 stone urns or vases, a stone box like a jewel-casket, and a crystal bowl, all intact, together with fragments of what had been wooden vessels of the same kind. \* \* \* In the vases were fragments of bone, a quantity of



dust and fine ash, and several hundred small jewels exquisitely carved \* \* \* \* and other minute objects in gold and silver." The identification of this spot as one of the burial-places of Buddha, was proved by an inscription carved on one of the urns. *This place of deposit for the remains of Buddha, the August One, is that of the Sâkyas, the brethren of the Distinguished One, in association with their sisters, and with the wives of their sons.*

In Nepalese Tarai an Asoka Pillar was discovered some years ago, and some of the inscriptions copied. Later the pillar was excavated and an inscription in 5 lines of Asoka letters was uncovered. The meaning is as follows: *Devânam Piya Piyadassi* [epithets of Asoka] *came himself in his twenty-first year and paid reverence here. And he put up a stone pillar, with a stone horse on it, on the ground that the Buddha, the Sâkya sage, was born here. And the village Lummini, since the Exalted One was born there, is hereby relieved of its tax of one-eighth share of the produce.* This places very accurately the birth-place of Buddha as recorded about 3 centuries B. C.

TREPHINING IN THE SOUTH SEAS. A short article by Rev. J. A. Crump on Trephining in the South Seas as carried on at the present time is of great interest and importance, bearing on our study of the prehistoric skulls which have been treated in this way. The paper was presented before the Anthropological Institute of great Britain and Ireland, and the following quotation is from their Journal.

"My previous inquiry was limited to New Britain itself, and in that part of the district the operation of trephining is practiced on the skull solely in cases of fracture.

"In the native fights the sling is the most formidable weapon used, a smooth stone as large as a pullet's egg being thrown with moderate accuracy but considerable force. A blow from a sling-stone is generally the cause of the fracture for which the operation is found necessary; the depressed portions of the bone or hæmorrhage beneath the skull causing compression, and death almost invariably results if the injury is not attended to. Injury caused by the stone-headed club is almost instantly fatal, but the flat two-edged club is not so deadly and permits of an occasional operation.

"The man who performs the operation is a wizard or 'tena-papait' of the tribe or district, using a piece of shell or a flake of obsidian for the trephine.

"An incision is made over the seat of fracture generally in the shape of a Y or V, and so perhaps some loose fragments are picked out with the finger nail, and while assistants hold back the scalp, the fractured bone is scraped, cut and picked away, leaving the brain exposed to the size of half-a-crown. Then all loose pieces having been removed, the scalp is carefully laid down and the wound bandaged with strips of banana stalk about 4 inches wide. These strips are when dry of a spongy nature, the water which formerly filled the cells being replaced by air. Moreover the inner surface is silky to the touch and forms an admirable dressing for tender surfaces. It is astringent in its action and non-absorbent, all discharge escaping below the bandage. Sometime a few bruised leaves are supplied before bandaging. The patient is generally insensible from the time of the injury, and, if consciousness returns during the operation, soon faints away again.

"In 5 or 6 days the bandages are renewed and in 2 or 3 weeks a complete recovery is the result. The number of deaths is about 20 per cent., most of these result from the first injury and not from any complication after the operation. Nearly all deaths take place during or immediately after the operation, and I am assured that after the patient once becomes conscious he never fails to make a good recovery.

"I have recently discovered that on New Ireland (Neu Mecklenburg) the operation is performed not only in the case of fracture but where there is epilepsy or certain forms of insanity as a result of pressure on the brain. I have in my possession a skull which has been successfully trephined in not less than five places, the man meeting his death some years after the last operation by a blow from an ax. This man suffered very severe headaches with local throbbing. The operation was performed each time in the region of the pain, and though no cure seems to have been effected, the operation was at any rate perfectly successful.

"The most common form trephining takes on Gerrit Demp Island and the central part of New Ireland is cutting 2 or 3 channels down the forehead 3 or 4 inches long. This is done for headache and what is described as a beating or plucking sensation.

"There seems to be some benefit in cases of trephining for epilepsy at least for a time. One native at Falabog on the west coast of New Ireland, with whom I conversed, at being trephined on the top of the skull for the malady had had no recurrence since the operation. In no case is it thought necessary to avoid the course of the sutures in performing this operation.

"After trephining has been performed there is a frequent partial temporary paralysis which almost invariably passes away, though in a few cases it is permanent. Idiocy is an occasional result also. But the natives affirm that while the cure of insanity and epilepsy are many, the instances where either malady supervenes after the operation are exceedingly few.

"I have the pleasure of" \* \* \* having "three skulls bearing indisputable evidence of the performance of the operation and its success.

"No. 1 is a skull of Toara, a native of the Kabakada on the northern coast of New Britain, and was struck with a sling-stone and trephined. He never became conscious and died two hours after the operation had been performed. The man who threw the sling-stone is still living and also the 'tene-papait' who performed the operation. From the latter I got my information. The marks of the instrument are easily visible.

"No. 2 is the skull of Toruruke, a native of Kabakada, and shows the growth of new bone. He was trephined about 7 years before his death.

"No. 3 is the skull of Tighan from the village of Olotai, situated about 6 miles inland from Ralabog on the west coast of New Ireland. This operation was performed to cure headaches. There are many people in this village who have been trephined. It has become fashionable, and a handsome girl or boy is generally persuaded to submit to the operation as an aid to longevity, there being no absolute need for its performance."

In the discussion which followed the reading of this paper Mr. Victor Horsley expressed the opinion that in the Peruvian skulls where trephining had been done in the frontal region, it was for curing headache, as suggested by that method of treatment among the South Sea Islanders.

SOME NATIVE LEGENDS from the Southern New Hebrides are translated in the last issue of the *Journal of the Anthropological Institute of Great Britain and Ireland*. The striking resemblance to some of our nursery stories, such as Jack and the Bean-stalk will be noticed in the following specially interesting ones:—

#### NO. I. MOSHIKISHIKI AND TAPOSIESI

Taposiesi<sup>1</sup> was a devourer of man, who devoured all the big people, and kept the children in a marae<sup>2</sup> in Pau<sup>3</sup> until they were big, and then he ate them. One day he went up to Kirisavini<sup>4</sup> and met Moshikishiki, who made himself young like a boy, and had been sharpening a stone ax. Taposiesi asked him, "Whence came you?" "I was playing," he answered. "Come down to your brothers in the marae." They both went down and heard the noise of the boys playing inside.



Moshikishiki was put inside too. Taposiesi went away to his plantation. When he was away Moshikishiki asked the children what they were doing. "Playing just waiting until our grandfather returns." "He is just deceiving you," said Moshikishiki; "he is feeding you up until you get big, and then he will eat you." He then took them away down to Tavesua.<sup>5</sup> Taposiesi hearing no sound from the house in the marae, came down and found no one inside. "What has become of my grandchildren," he said. He went down to the cliff, and saw them on the beach below. "What are you doing down there, my grandchildren?" and he went down after them, hoping to inclose them inside the rocks. But Moshikishiki cut the rock at Masuataga,<sup>6</sup> and he and the boys went out towards the sea. Taposiesi followed. They went on with Moshikishiki at Taringakasi, and went on to Sia, and climbed up Feiava, and went on towards Mounga.<sup>7</sup> They climbed tamakopu.<sup>8</sup> The boys became the seed and Moshikishiki the core of the breadfruit. Taposiesi said, "This is my breadfruit," and went to cut firewood to cook it. When he was making the fire the boys watered it (urinated) and put it out. He went away to get some food. When he was away they left tamakopu and climbed up by means of the tarie<sup>9</sup> up into the sky. When Taposiesi returned he found no one in the breadfruit tree, but saw them in the sky. "How did you get up there my grandchildren? Give me the vine (or creeper) that I may climb up." They threw it down to him and pulled it up some distance and then let go. "How did you let me fall," asked Taposiesi. "You did not take a good hold." He tried again, and fell, and laid down. One of the boys came down like a fly (tarango<sup>10</sup>) and examined him. He went up and said, "He is dead." Another came down like a large black ant (taroota<sup>11</sup>) and examined him. He passed through me, entering at the mouth. "He is dead," he said. The other boys came down. "Where do you stay?" asked Moshikishiki of one. "I am a man of Mounga." "You will stay in Mounga." "What is your land?" he asked of another "Sia." "Then you will stay in Sia." "What is your land?" "I am a man of Asoa." "You will go to Asoa." "What is your land?" "Akana." "Go." "What is your land?" "Matangi." "Go." "What is your land?" "Raro." "Go." "What is your land?" "Pau." Then we two will go." And thus Moshikishiki took up his stay in Pau.<sup>12</sup>

#### NO. II. TANGAROA, THE ORIGIN OF COCOA-NUTS

Tangaroa<sup>1</sup> lived in Tavakosura in Aniwa. There was a woman, named Keke, in the district of Ravaru. Tangaroa was one day following the course of the vine of a keire,<sup>2</sup> and Keke met him. He took her for his wife, and they had a son, and they lived in Tavakosura. Tangaroa now and again left Aniwa and went over to Rupapu<sup>3</sup> and to Nahabusima<sup>4</sup> and to Namera<sup>5</sup> and to other parts of Tanna. When he went away, he left part of him behind as he was big and long like a house.<sup>6</sup> Once he went away altogether, and then the woman took her child and returned to Ravaru. When Tangaroa returned to Tavakosura, he found that his wife and child were gone. "Where are they two gone to?" And he blew a Pan's pipe. "What is that?" asked his wife of those round about. "Oh! it is only the wind blowing through the toa<sup>7</sup> leaves." The whistling continued, and she began to clean up the premises, and swept it all round. Then he came in gradually and filled up the space. She got some kava,<sup>8</sup> and some other roots, and chewed them for him to drink. He said, "if when I drink it, I live, then we three shall stay together, if not, you will cut off my head, and bury me." He drank the kava and died at once. She cut off his head and buried the body, and then buried the head in a heap of rubbish in the premises. It grew and became a nabuau.<sup>9</sup> A fence was made round it. It grew larger and became a niu,<sup>10</sup> and a larger fence was put round it. Keke gave her son the cocoa-nuts that grew on it, and gave none to others.

Others ate the fruit of the fatau,<sup>11</sup> and the pau.<sup>12</sup> His mother told him not to give any of his food to others. One day he was out with other children, and he saw them eating puddings of this fruit. He asked them to give him one, and they refused. He said "I have a very good pudding myself." "Let us see it?"

they asked. He returned to his premises, and brought the cocoa-nut made into a pudding, and gave it to them. Each one took a bite of it, and they ate and ate until they ate off his hand. He went back to his premises crying. When his mother saw that his hand was bitten off, she was angry and pulled off the leaves of the cocoa-nut tree. She threw away tanojiro,<sup>13</sup> and they fell in Samoa, Rarotonga, Niu (Savage Islands), and thus these islands have large good cocoa-nuts, while bad ones have been left for Aniwa.<sup>14</sup>

### No. III. TANGALUA AND SEIMATA

Tangalua<sup>1</sup> had an Aniwan woman, Seimata, as his wife. She had a little boy. The Aniwans hated Tangalua, because, as they said, he was not a man but only a ghost.<sup>2</sup> So they killed him with a big dose of kava. Before he died he told Seimata to watch the place where he was buried, for something would grow there that would be food for her child. As Tangalua lay drunk with kava he wagged his tail<sup>2</sup> again and again, and died and was buried. Out of his two eyes grew a cocoa-nut tree.<sup>3</sup> But only Seimata and her child knew that its nuts were good to eat. One day Seimata left her little boy alone, eating a nut, and told him not to tell anyone where he got it. Some boys got him to show them the tree. They pulled nuts and ate them. One boy in his greed ate the points of his fingers. Seimata was very angry, and pulled up the tree and tore it to fragments. The wind scattered these among all the islands, so they all have cocoa-nuts now.

No. I. This story is told with very slight variation by the people of Aniwa. They give more detail of the attempts of Taposiesi to reach the sky.

<sup>1</sup>Taposiesi. I have been unable to trace this person in the eastern legends. <sup>2</sup>The marae is the open space in the center of a Polynesian valley. <sup>3</sup>Pau is a place in Futuna. <sup>4</sup>Kirisavini is a path leading to the great hill which forms the center of Futuna. <sup>5</sup>Tavesua is the landing-place near the mission station. <sup>6</sup>Masuataga is near the landing-place. <sup>7</sup>Taringakasi and Feiava are near the mission station and landing-place; Mouna is the central hill of Futuna. <sup>8</sup>In this and similar words ta is a definite article. Makopo is the bread fruit-tree; Samoan, maopa. <sup>9</sup>Tarie, the almond tree. <sup>10</sup>Tarango, the house fly; Samoan, etc., lango. <sup>11</sup>Taroata, Samoan loata, a large venomous ant. <sup>12</sup>Mouna, Sia, Asoa, Akana, Matangi, Raro, and Pau are the 7 districts into which the island of Futuna is divided. Sometimes the locative particle i is prefixed Imouna, Imatangi, at Mouna, at Matangi.

No. II. In Tanna a story of this kind is called Kawanangei. <sup>1</sup>Tangaroa is also called Teirauma or Lakeirea. <sup>2</sup>Keire is a tuberous plant with a trailing stem, similar to the yam. <sup>3</sup>Rupapu, Port Resolution, Tanna. <sup>4</sup>Nahabusima, Weasisi, Tanna. <sup>5</sup>Namera, Kwamera, Tanna. <sup>6</sup>Tangaroa was a gigantic eel or sea snake. <sup>7</sup>Toa, iron-wood (Casuarina). <sup>8</sup>Kava, Piper methysticum. <sup>9</sup>Nabuau, the sago palm. <sup>10</sup>Niu, the cocoa-nut palm. <sup>11</sup>Fatau is described as a tree like a tamano tree. What the latter is I do not know. <sup>12</sup>The Pau is a tree with a pear-like fruit, containing a hard unedible seed. <sup>13</sup>Tanojiro, the central leaves of the cocoa-nut palm; tano, its, belonging to it, jiro, innermost sprout; Samoan, tilo. <sup>14</sup>Rarotonga, cocoa-nuts are said to have sprung from the head of Tuna. He assumed the shape of an eel, and his head was cut off by his lover, Ina moe aitu. Twin cocoa-palms sprang from the 2 halves of his brain; one red, sacred to Tangaroa, the other green sacred to Rongo. The white kernel of a cocoa-nut, which was not to be eaten by a woman, was te roroo Tuna, Tuna's brain. [Gill, *Myths and Songs*, p. 77.] The conception of Tangaroa as a snake or eel does not seem to occur in Eastern Polynesia.

No. III. <sup>1</sup>Tangalau is the Tanna form of the word Tangaroa. <sup>2</sup>Because of his eel or snake-like form. <sup>3</sup>Cf. The Aniwa and Rarotongan version.

OUR KNOWLEDGE OF THE ROCK-PICTURES of Northern Africa has been greatly increased by the recent discoveries of M. Flamand, the reports of which have been published in the bulletins of the *Société d'Anthropologie de Lyon*.





BUBALUS ANTIQUUS AND SOME SMALL ANIMAL



NEOLITHIC PICTURE (Mograret-et-Tathani) 1. Man. 2. Undetermined animal. 3. *Antelope gnu*. 4. Group of several persons. 5. Antelope or giraffe.

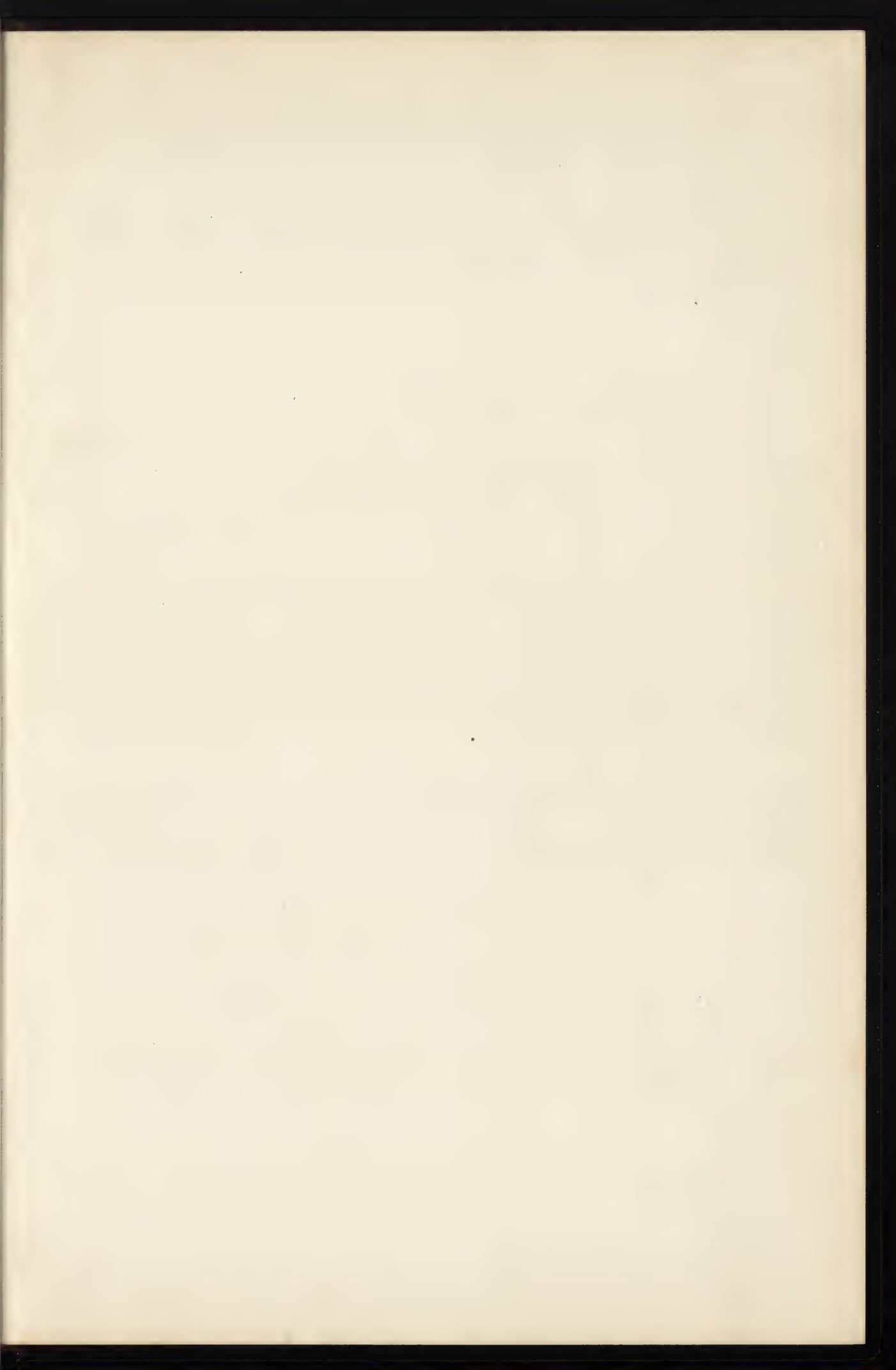
These drawings represent different epochs: 1. Prehistoric or neolithic; 2. "Protohistoriques," historic and modern. Concerning this first division M. L. Captain in *Revue de l'Ecole d'Anthropologie* for May 1902 says that some of these prehistoric (neolithic) pictures represent very large animals such as the rhinoceros, elephant and carnivorous animals. They are correctly drawn and seem to be reproductions of animals which the artist had actually seen. Among them is the drawing of a large species of buffalo which has entirely disappeared from the region but whose former existence there is known from his bones which are often found in the recent pleistocene deposits of the high plateau region of Algiers. To archæologists this fact shows the great antiquity of the drawings, while to the geologist or meteorologist, it indicates the recentness and extent of the climatic changes which have taken place in that region.

The animals pictured on these rocks are the *Bubalus antiquus* (a huge long-horned buffalo), elephant, rhinoceros, ox, wild boar, hippopotamus, carnivorous animals, horse, antelope, deer, giraffe, monkey, and man.



BUBALUS ANTIQUUS







THE LION GATE AT MYCENÆ  
[From photograph by Frederick Bennett Wright.]



# RECORDS OF THE PAST

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PART VII

## THE OLDEST CIVILIZATION OF GREECE<sup>1</sup>

BY PROF. GEORGE FREDERICK WRIGHT, D.D., LL.D., F.G.S.A.

THE literary history of Greece reaches no farther back than the beginning of the VII century B.C. Beyond that period Thucydides and Herodotus did not venture with any positive statements of facts. The poems of Homer, indeed, seemed to carry us back into a remoter past, but his historical references were too rhetorical and vague to be of any positive service to matter-of-fact historians; while previous to the Homeric era there was no glimmer of light. By the excavations of Schliemann in Troy, Mycenæ, and Tiryns, from 1870 to 1880, however, a new chapter was opened which has shed a flood of light upon the prehistoric civilization of Greece, and revealed most interesting connections between it and the civilization both of the East and of the West.

But the excavations at Troy were dependent for their full meaning upon the later ones at Mycenæ and Tiryns, two fortified citadels bordering the plain of Argos, which spreads out around the head of the Gulf of Argolis, the most prominent of the many sheets of water projecting into the Peloponnesus. Mycenæ was the seat of the government of Agamemnon, the most prominent of the Homeric heroes of the Trojan war, who, it was said, furnished 100 ships as his own quota, while lending 60 more to the Arcadians. As the siege of Troy progressed, the responsibility of its conduct fell upon him, and he performed marvels of bravery. In the legends of the Peloponnesus he figures as the highest type of the powerful monarch.

How much of reality there was as a basis of these legends it is impossible to tell. But the case is stated in a most interesting manner by the eminent English historian Freeman, who institutes a comparison between Agamemnon and Charlemagne.

The legend of Charlemagne, amidst infinite perversions, preserves a certain groundwork of real history; I should expect to find in the legend of Agamemnon a similar groundwork of real history. There is, of course, the all-important

<sup>1</sup>*The Oldest Civilization of Greece. Studies of the Mycenæan Age.* By H. R. Hall, M.A., Assistant in the Department of Egyptian and Assyrian Antiquities, British Museum. London, 1901, David Nutt; Philadelphia, 1901, J. B. Lippincott Co. 8vo. Pp. xxxiv and 346, numerous illustrations.

difference that we can test the one story, and that we cannot test the other, by the certain evidence of contemporary documents. This gives us certainty in one case, while we cannot get beyond high probability in the other. . . . Later Grecian history would never lead us to believe that there had been once a single dynasty reigning, if not as sovereigns, at least as suzerains, over a large portion of insular and peninsular Greece. So, later mediæval history would never lead us to believe that there had once been a Latin or Teutonic emperor, whose dominions stretched from the Eider to the Ebro. But we know that the Carolingian legend is thus far confirmed by history; there is, therefore, no *a priori* objection to the analogous features of the Pelopid legend. The truth is that the idea of such an extensive dominion would not have occurred to a later romancer, unless some real history or tradition had suggested it to him. So, again, without some such groundwork of history or tradition, no one would have fixed upon Mycenæ, a place utterly insignificant in later history, as the capital of this extensive empire. The romances have transferred the capital of Karl from Aachen to Paris; had it really been Paris, no one would have transferred it to Aachen. . . . Whether Agamemnon be a real man or not, the combination of internal and external evidence leads us to set down the Pelopid dynasty at Mycenæ as an established fact.

In the excavations at Troy, Schliemann found the remains of no less than 9 distinct cities under each other; the *débris* of each one having been leveled off to furnish the foundations of its successor. Schliemann had taken the next to the lowest of these cities for the Homeric Troy, but subsequent investigations, coupled with the results of excavations in Athens, Mycenæ, and various other places, have shown that the Troy of Homer was the sixth from the bottom, or the third below the Roman Ilium, which now rests upon the surface. These investigations have led to most interesting discoveries concerning the Mycenæan civilization and the various steps of progress leading up to it.

Mycenæ was situated in the northeast portion of the beautiful and fertile plain of Argos, where it rises upon the flanks of the mountain range which separates the plain from the Saronic Gulf. Two peaks, Hagios Elias and Zara, rise immediately in its rear to an elevation of from 2,000 to 2,500 feet; the acropolis of Mycenæ itself being 910 feet above the sea, commanding a magnificent view of the plain of Argos and of the gulf and of the mountain ranges which stretch from north to south through the center of the Peloponnesus.

The entrance to the acropolis is through the Lions' Gate, which has long been regarded as the most ancient important specimen of Grecian sculpture in existence. It is now pretty certainly proved to represent a period of artistic development preceding the so-called classical period by several centuries. The gateway is approached by a gradually ascending roadway, 50 feet long and 28 feet wide, inclosed between parallel walls of cyclopæan masonry. Only 7 men could walk abreast through this entrance, where, if an attacking party, they would be exposed to a rain of missiles in front and on both flanks. The wall is finally pierced by a gateway 10 feet 4 inches high, with a width of 9 feet 10 inches at the bottom and 9 feet at the top.

Above the gateway there rests a lintel of such enormous proportions as to excite the greatest wonder that engineers of that early date should have been able to transport it and place it securely in its present position. This immense stone is  $16\frac{1}{2}$  feet long, 8 feet broad, and  $3\frac{1}{2}$  feet thick in the middle. But by a device common in many of the structures of that date it





GENERAL VIEW OF THE RUINS AT MYCENÆ  
[From photograph by Frederick Bennett Wright.]



AGAMEMNON'S CIRCLE. THE REAR OF THE LION GATE APPEARS IN THE UPPER RIGHT HAND  
CORNER OF THE PICTURE  
[From photograph by Frederick Bennett Wright.]

is shielded from the irresistible pressure of the superincumbent wall by a pointed arch formed by laying the heavy stones so that they regularly overlap each other until meeting 10 feet above the lintel.

This space is filled by a single slab 10 feet high, 12 feet broad at the bottom, and 2 feet thick, upon which is sculptured in relief two lions reared on their hind legs with their fore paws resting upon an altar-like pedestal. The heads of the lions are now missing, and they were evidently not of a piece with the bodies, but wrought separately, and fastened on so as to face the entrance. From their surprisingly life-like character, and from the remarkable understanding of feline motion and form which speaks from the extended bodies, they are proved to belong to a very early stage of artistic development before it had been corrupted by the conventionalities which characterized the later stages of art in all the great centers of early civilization; while from their resemblance, both in subject and treatment, to the sculptures found in Asia Minor and amid the earlier ruins of Babylonia, a connection is plausibly traced between them and the earlier classic age of art in the Euphrates Valley.

Upon passing through the Lions' Gate into the fortress, we reach the scene of Dr. Schliemann's excavations in 1876 and 1877. These consist of a curious circular inclosure, 87 feet in diameter, fenced in by a double row of limestone slabs set vertically in two concentric rings about 3 feet apart. The space between is supposed originally to have been filled with small stones and earth, and then covered with cross slabs of which several still remain in position. Within this circle were found 6 tombs buried to a depth of from 12 to 30 feet beneath the accumulated *débris*. In one of these tombs there were 3 skeletons "literally laden with female ornaments of gold, among which were 6 diadems, one of which was still encircling a skull, an ornate gold-headed hairpin," 6 gold spirals for the hair; 15 gold pendants; 11 gold necklace-coils; 6 gold bracelets; 8 gold crosses and stars; 10 gold grasshoppers hung from gold chains; 1 gold butterfly; 4 gold griffins—one flying; 4 gold lions couchant; 12 gold ornaments, each with two stags reposing upon branches of a date palm; 10 ornaments with lions—one with two lions attacking an ox; 3 gold *intaglios* with vigorous figure-subjects; 51 gold ornaments embossed with cuttle fish, butterflies, swans, eagles, hippocampi, and sphinxes; 4 female idols in gold, including two of Aphrodite with doves; 18 gold wheels and tubes; 2 pair of gold scales; 1 gold mask of child; 1 gold goblet embossed with fishes swimming; 5 gold vases with lids; and, finally, 701 "large, thick, round, plates of gold with a very pretty decoration of *repoussé* work in 14 different designs—spirals, flowers, cuttle fish, butterflies, etc."



BRONZE SWORDBLADE FROM MYCENÆ, WITH INLAID EGYPTIAN DESIGN OF CATS HUNTING WILDFOWL  
[From *The Oldest Civilization of Greece*, p. 58.]

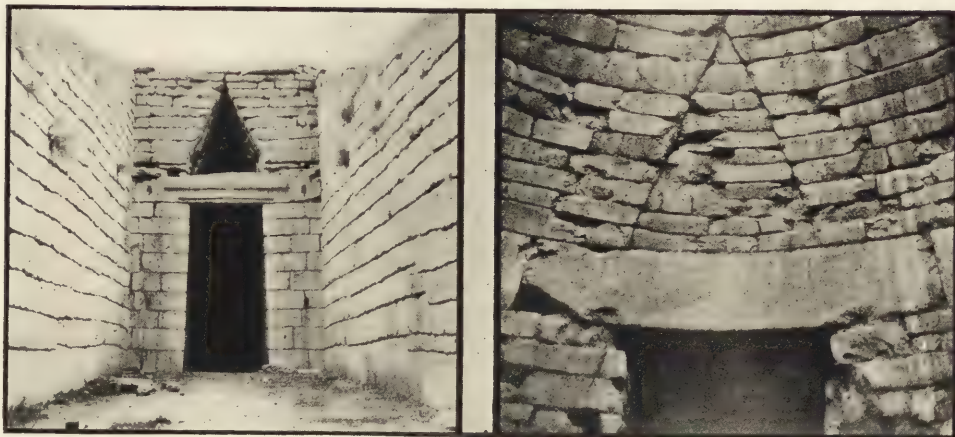




MYCENÆAN GOLDEN CUP, FROM MYCENÆ (THE LION'S HEAD IS EGYPTIAN STYLE)  
[From *The Oldest Civilization of Greece*, p. 29.]

In addition to this profusion of gold, there were 4 silver vases and goblets, 2 silver rods plated with gold; a magnificent alabaster vase and cup; 1 bronze vase and 3 large bronze caldrons; several engraved gems; and "an enormous quantity of amber beads." Such is a rapid inventory of the funeral outfit of these Mycenæan ladies, in which Dr. Schliemann enumerates 870 objects in gold alone (illustrated by 86 figures), not including "many small gold ornaments," "a large quantity" of gold beads, and "another large quantity of small pieces of very thin beaten gold with which the whole tomb was strewn."

In another tomb 5 skeletons were found, 3 with their heads to the east, and 2 to the north. Three of these were those of men. These 5 bodies, said Schliemann, "were literally smothered in jewels," and 70 pages of his great report are filled in describing them. But in addition to the jewelry there were 34 large copper jugs and caldrons, one of the latter being 2½ feet in diameter; while in one heap lay more than 20 bronze swords, one of which was ornamented with a representation of a lion hunt inlaid in gold. Three of the dead had golden masks still on their faces; while two of them were covered with golden breastplates, and near the head of one was a gold crown, and on the arm of another a gold bracelet of enormous size. Besides these there were 600 golden ornaments of a variety of patterns, with a great silver oxhead with golden horns and golden and silver vessels in large numbers; while 800 amber beads lay in two heaps besides two of the skeletons. More than half a pound of small gold leaves was gathered up.



ENTRANCE TO TREASURY OF ATREUS

STONE OVER THE ENTRANCE TO ONE OF THE  
"BEEHIVE TOMBS" TAKEN FROM THE INSIDE

[From photographs by Frederick Bennett Wright.]

It is no wonder that Schliemann supposed this to be the veritable tombs of Agamemnon and his companions, who were so cruelly murdered upon their return from the capture of Troy. But later investigations make it clear that this could not be the case; for closer examination shows that the 19 persons buried in these graves did not expire at one and the same time, which would overthrow the theory of Schliemann. "That they are the tombs of a royal line is, however, beyond doubt." But it is of a dynasty whose names have not come down to us.

Outside of the acropolis and lower down the hill is a considerable area covered with the remains of the larger city that gathered around it in more peaceful times. Among the most remarkable objects found in these remains are certain "beehive tombs" which have since been found to be distributed pretty widely, and are believed to be remnants of the pre-Homeric age. The principal of these in Mycenæ are the so-called "treasury of Atreus," locally known as the tomb of Agamemnon and the "tomb of Clytemnestra."

The "treasury of Atreus" is in the side of the hill about half way up the slope of the rocky ridge leading from the valley to the acropolis. Here a horizontal passage-way 115 feet long and 20 feet wide has been dug into the hill, its sides are lined with masonry, and rise with the slope of the ridge to be 45 feet high at the entrance to the tomb. The façade of the tomb is formed by a vertical wall 20 feet wide and 46 feet high. The door is 17 feet 9 inches high, and its breadth varies from 8 feet 9 inches on the ground to 8 feet 1 inch on the top, and the thickness of the façade is 17 feet 6 inches. The lintel is composed of two enormous blocks, the inner one measuring 29 feet 6 inches in length by 16 feet 6 inches in breadth, and 3 feet 4 inches in thickness, with an estimated weight of 120 tons. Over the lintel there is a triangular relieving space such as has been already described over the Lions' Gate.

The chamber entered by this portal is a circular vault 48 feet in diameter upon the ground, and 48 feet high. It is formed by 33 courses of large hewn blocks perfectly joined—each course a perfect circle and all gradually converging in a smooth curve to the apex, where the dome is capped with a single stone. Above the third course of stone, bronze nails were originally





ASIATIC SUB-MYCENÆAN VASE, FROM  
MYLASA IN KARIA



VASE WITH ORIENTALIZING DESIGNS,  
FROM CYPRUS



CEILING OF THE "TREASURY OF MINYAS," AT ORCHOMENOS (EGYPTIAN DESIGN)  
[The illustrations on this page are taken from *The Oldest Civilization of Greece*, pp. 43, 44 and 167.]



DESIGN IN RELIEF FROM A GOLDEN CUP FOUND AT VAPHIO IN LAKONIA (ATHENS MUSEUM; A REPRODUCTION IS IN THE ASHMOLEAN MUSEUM, OXFORD)

[Cf. Perrot-Chipiez, *Hist. de l' Art*, vi, pl. xv.]

fixed in circles at recurring intervals, some of these still remain in place, while the holes indicate where others have been. These were probably to fasten ornaments, and in some of the circles friezes for the decoration of the room.

Adjoining the domed chamber is a square rock-hewn side-chamber measuring 27 feet square by 19 feet high. This was probably originally cased with alabaster with a single slab of that material covering its upper surface. What are supposed to be the remains of a foundation for sustaining a supporting pillar of this slab are found in the middle of the room. Altogether the structures are perhaps the most impressive to be found among the remains of ancient Greece.

About 400 yards farther up the hill the so-called "tomb of Clytemnestra" is found whose proportions are even larger than the other, and similar to it in general plan. The 5 others in the near vicinity present the same features, but each with slight variations.

But the greatest of these domed tombs is the one found at Orchomenos, in the center of the Peloponnesus about half way between Mycenæ and Olympia. This was spoken of by Pausanias as the "treasury of Minyas." This was excavated by Schliemann in 1880, but it was then already largely in ruins, having been resorted to by the inhabitants as a quarry for building a neighboring chapel. It is ascertained, however, that the doorway was 17 feet 11 inches high, 8 feet 10 inches broad at the bottom, and 8 feet at the



DESIGN IN RELIEF FROM A GOLDEN CUP FOUND AT VAPHIO IN LAKONIA (ATHENS MUSEUM; A REPRODUCTION IS IN THE ASHMOLEAN MUSEUM, OXFORD)

[Cf. Perrot-Chipiez, *Hist. de l' Art*, vi, pl. xv.]



top, and that the circular vault was 46 feet in diameter, and built of well-wrought marble. Bronze nails, also, for affixing ornaments pierced the courses at regular intervals above the fifth.

In speculating concerning the use of these vaults, there would seem to be little doubt that they were burial-places prepared by families of great wealth and power. But they stand entirely apart from any structures of the classical period of Grecian history, and point back to a civilization closely allied to that which flourished in Egypt and Babylonia and spread through Asia Minor. The evident rich ornamentation of these burial vaults and the immense accumulations of treasures deposited with the dead in the tombs of the citadel are characteristic of that earlier age which built the pyramids, and provided liberally for the supposed wants of the dead as they wandered among the shades of the invisible world.

In this we get a glimpse of the religious faith of that earlier time. As is well said by Dr. Tsountas,

To us it seemed a useless waste, as it did to the Greeks of the classic age, in whose tombs we find few precious votives. The Mycenæans, however, as all peoples at a like stage of development, looked upon it in a different light. To them the future life was only a prolonging of the present, and those who dwelt in splendid palaces in this world craved a corresponding abode after death. Did not these same people think that to insure their comfort in the other world they must take with them some portion of their riches, even slaves to wait upon them? It is true that the older acropolis graves are simple and unadorned, but their wealth of offerings compensated for the simplicity of their construction, while the votives in the later and grander vaulted tombs are neither so numerous nor so valuable.

The period which Mr. Hall would assign to the Mycenæan kingdom extends from 1700 to about 1000 B.C., during the larger part of which time, the results of the excavations go to show, that Mycenæan influence was predominant not only over the whole extent of Greece proper, but over the islands of the Ægean Sea and along its Asiatic coast and in Cyprus. Among the indications of a considerable freedom of intercourse with the civilizations of the East are the finding of objects of ivory and the frequent occurrence of implements and ornaments of bronze. Indeed, the Mycenæan period is largely contemporaneous with the bronze age.

Now, though copper appears in some of the buried cities of Greece which preceded the Mycenæan period, it is not by any means probable that bronze, which consists of an artificial amalgam of copper and tin or copper and antimony was independently discovered in Greece.

Bronze seems to have been commonly used in Babylonia, at least as early as 3000 B.C.; some time before this it first appears in Egypt, but is not common there until a much later period. It seems very probable that bronze was first invented by the Sumerians. . . . At some time between 2000 and 1500 B.C. the knowledge of bronze must have spread from Mesopotamia and from Egypt through Asia Minor and Cyprus to Greece, whence it passed to Italy and the rest of Europe.

But there is little evidence of the use of iron in the Mycenæan age. Iron, however, was known in Egypt 3500 B.C.

That iron objects were occasionally exported from Egypt to Greece in the Mycenæan period, or even earlier, is therefore quite possible; the iron rings

found at Mycenæ and the iron staff handle from Troy may have come from Egypt, but it is evident that iron was not generally employed in Greece until after the Dorian invasion (about 1000 B.C.).

The volume of Mr. Hall is, as it is styled, merely "studies" consisting chiefly of essays which he has printed for the criticism or the further elucidation of the great works of Schliemann and Tsountas, and in general they assume familiarity with those works. He has, however, added much to our understanding of the discoveries of these original explorers and shed much light upon the probable connection of the prehistoric civilization of Greece with that of Babylon and Egypt. It was, however, in the main peculiar to itself and independent even of the great Aryan migration which came in both from the north and from the south. But, at best, the "oldest civilization of Greece" is far from being the oldest civilization of the world.



GOLDEN GRIFFIN, FROM MYCENÆ (THE DESIGN IS OF PURELY EGYPTIAN ORIGIN)

[From *The Oldest Civilization of Greece*, p. 30.]

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## ORIGIN OF THE AMERICAN ABORIGINES

### INTRODUCTION

IT is but a few years ago that Miss Edwards planned for organized effort to give to the world the archaeological and literary treasures of ancient Egypt. A little later we find Dr. Peters, in the midst of University duties, planning to do the same for Babylonia, and Mr. Clark, the banker, giving time, influence and money, to carry out his plans. M. Jacques de Morgan, the master explorer, while seeking for the earliest remains of Egyptian civilization, was longing for the opportunity to trace it back to its source, holding to the theory that it was of Asiatic origin. He finally resigned the much coveted position of Director General of Egyptian Antiquities and started for Persia. Miss Edwards lived to see the Egypt Exploration Fund, of which she was the chief founder, fairly started in the grand work it has already accomplished in the Nile Valley. Dr. Peters has seen repeated expeditions follow the first one he led into the Tigro-Euphrates Valley, and each one return with priceless treasures of antiquity until the Exploration Society he brought into being is an honor to the City and University of its birth and to himself. M. de Morgan returned to Paris from his second season's work in the ruins of the ancient city of Susa, having found his theory of the Asiatic origin of Egyptian civilization to be true. The work inaugurated by these three persons has added several thousands of years to our knowledge of the history of the world.

But here in America no organized effort was made to ascertain the origin of its aborigines until Mr. Morris K. Jesup, the distinguished President of the American Museum of Natural History, created a liberal en-



dowment, out of his private fortune, for a thorough and systematic exploration of the Northwestern part of our Continent and the Eastern part of Asia, for the purpose of settling the question of an Asiatic origin, of the American Aborigines by way of the North Pacific Ocean. He commissioned Prof. F. W. Putnam, who undoubtedly possesses the widest knowledge of American Antiquities, to organize the various expeditions to carry on the work, and under his direction they are now conducting their investigations. We believe that the final results of the work inaugurated by Mr. Jesup will settle this very interesting as well as difficult question.

It is our intention to give from time to time abstracts of the reports made by the expeditions charged with investigating the various phases of the work undertaken. To Mr. Harlan I. Smith of the American Museum of Natural History was intrusted the exploration for archæological remains of the prehistoric race in British Columbia. His work was not an inviting one. He did not expect to find the ruins of once great cities, which always create enthusiasm in the explorer. But for two seasons he has searched diligently in the prehistoric mounds and graves of that region. The main results of his first season's work are given in the following abstract of his report. He has gained a thorough knowledge of the archæology of the region and must henceforth be regarded as our chief authority on the subject in British Columbia.

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### ARCHAEOLOGY OF LYTTON, BRITISH COLUMBIA

BY HARLAN I. SMITH

LYTTON is situated at the confluence of the Thompson and Fraser Rivers, in southern British Columbia. Below Lytton the Fraser River breaks through the Coast Range, forming a deep canyon, while above Lytton it flows through the plateau, which extends from the Coast Range to the western range of the Rocky Mountains. The climate of this area is rather dry, and consequently the vegetation is somewhat scanty. The higher parts of the country are covered with open timber. The Indians inhabiting this area at the present time subsist largely on fish, of which there is an abundant supply in the rivers, particularly at the time when the salmon ascend to spawn; but fish is not by any means as important a staple as it is among the tribes of the coast. Roots and berries, which are gathered on the hills, form an important part of the diet of the people, who also hunt deer and bear, on which they subsist when living at a distance from the rivers.

On account of the importance of the fish diet, the more permanent villages of the Indians are located on the larger rivers, principally on the Fraser and Thompson. Places on the banks of the river which are not too far removed from berrying and root-digging grounds are the favorite resorts of the Indians. Lytton is most favorably located for all these pursuits, and consequently it has always been an important village. Evidently the same conditions prevailed in prehistoric times, as is shown by the extensive remains of villages and the large burial-grounds found at this place.

A large burial-ground on the point of land between the Fraser and Thompson Rivers has long been known. It was first described by Dr. George M. Dawson, who investigated it while engaged in geological work

in southern British Columbia during the years 1877 and 1888-90.<sup>1</sup> The collections made by Dr. Dawson are in the Museum of the Geological Survey of Canada.

In July, 1897, the Jesup North Pacific Expedition made a series of explorations in this vicinity. The following descriptions are based upon these explorations, which were carried on by the writer.

The explorations were largely confined to the main burial place and village site, situated on the sand hill that is found along a terrace between the canyons of the Fraser and Thompson Rivers and immediately to the north of their confluence.<sup>2</sup> This is by far the most important site near Lytton. The hill is about 100 feet above the river, and is approximately 500 feet in length by 200 feet in breadth. A large pine tree is growing on the crest of the hill, in the middle of the burial place. An Indian trail passes to the west of the area, and the government road bounds it on the east. No definite age can be assigned to any of the remains secured, as the wind, which sweeps strongly up the canyon of the Fraser River, is continually shifting the light, dry sand from place to place. It uncovers the graves, disarranges them, and sometimes re-covers the remains. Miners and Indians often camp at this site; and the objects left or lost by them are scattered on the surface, and often covered by the shifting sand. All these objects must be distinguished from the undisturbed burial of the prehistoric people. The surface is strewn with human bones which have been uncovered by the wind. There are also scattered about shell beads, wedges made of antler, scrapers and chipped points of stone such as are used for arrows and knives, grinding-stones, celts, and other material similar to that found in the graves. There is a large box at this place, in which the Indians deposit the bones and objects as they are uncovered by the wind, but sometimes they bury them. The bones they consider to be those of Indians, although they do not know whether they are of their own ancestors or not. It is reasonably certain, judging from the complete absence of European objects in the undisturbed graves, that they antedate contact with the whites. A number of them must be several hundred years old.

Extending to the north from the hill, and on the same terrace, were found old hearths, indicated by broken and cracked firestones, large slabs of grinding-stones, and remains of underground houses. A few human bones were secured from the edge of the gravel-pit made by miners near an Indian cemetery known to be modern by the portions of the fence which still remain.

Southward from the sand hill, on the level of the terrace, were found traces of similar hearths, charcoal, and rolls of birch bark partly burned. Here were also remains of underground houses. There were two large boulders which the Indians report were used in the ceremonies performed by young men or by youths when reaching maturity. It is said that these youths were required to cover the distance from one boulder to the other in a prescribed number of leaps.

About half a mile below Lytton, on the high gravel terrace on the left bank of the Fraser River, was found a second village site.

A third village site was located on the high terrace on the left bank of the Fraser River, about 2 miles north of Lytton. The place is a meadow

<sup>1</sup>*Transactions of the Royal Society of Canada*, Sect. D, 1891, pp. 10-12.

<sup>2</sup>See upper view on p. 207.





VIEW UP THE FRASER RIVER NORTH FROM LYTTON, B. C.

VIEW ACROSS THE FRASER RIVER, SHOWING HOUSE PIT IN FOREGROUND

in an open pine forest east of the government road. South of it is a small brook, ending lower down in a marsh. This may have determined the location of the site, since it affords a supply of fresh water high above the Fraser River.

A fifth ancient village and a burial place were located at the north side of the mouth of Stein Creek, which empties into the Fraser River, from the west, at a point about 4 miles above Lytton. This place is on the tableland overlooking the Fraser River, and near the present Indian village of Slame. Here were human bones, fragments of pecten shells, fragments of steatite pipes, and wedges of antler, scattered by the wind. On the lower terrace, close to Stein Creek, are remains of ancient houses which measured from 50 to 60 feet in diameter.

Some attention was given to the sixth site, which is marked by burials and traces of habitations on the low sandy terraces on the west bank of the Fraser River, about opposite the main burial place. These sites may or may not have been occupied at the same time.

All through this region are evidences of prehistoric habitations, located at varying distances from the larger village sites. This suggests that the mode of life of the prehistoric people was similar to that of the present Indians, among whom one or two families often live at some distance from the main villages.

*Resources.*—The resources of the prehistoric people of Lytton, as indicated by the specimens found in the graves, hearths, and about the village sites, were chiefly stone, copper, shell, bone, antler, teeth, the skins of animals, and vegetable substances.

Many evidences of the association of animals with man were found. While it may be that some of the animals whose remains are found in the village sites and burial grounds did not live with the people, having taken up their abodes in these places after they had been deserted, numerous worked and broken bones and teeth show that the animals to whom they belonged must have been useful to the prehistoric inhabitants of Lytton.

The present Indians of this area used dentalium shells, which are not imported along the Fraser River, but from the region north of Vancouver Island, over the mountains, down to the upper course of the Fraser River. The trade in these shells is in the hands of the Chilcotin, an Athapaskan tribe of western British Columbia. It is probable that in prehistoric times dentalium shells found their way to Lytton over the same route. It seems at least that the use of dentalium shells was much more extensive in the interior than it was in prehistoric times in the delta of the Fraser River.

Vegetable substances include charred pieces of wood from the hearths, and other charred fragments which had probably been portions of canoes, sticks, etc., that were found in various parts of the village sites. Pieces of wood were found wrapped in copper, and preserved by the action of the copper salts, the whole being probably an ornament of some sort. Birch bark charred, or preserved by the dryness of the climate, was found in the graves as lining or covering, and in the form of rolls. Probably it was also used for dishes. Charred berries, including bearberry, were found in the hearths; and to this day edible roots are plentiful in the vicinity. That they were dug for food is suggested by the presence of the digging stick handles. The seeds of a western species of *Lythospermum*, which may have been used for food, were frequently found in the hearths; and large numbers of them



were sometimes over the skeletons in the graves, as if that plant had been used as a covering of the bodies. A kind of gum that was found in a clam-shell spoon and on a bone handle for a stone knife resembles that from the fir and pine. Woven fabrics of vegetable fibre, possibly sagebrush bark, and portions of string made of the bark of red cedar, were found in the graves.

*Hunting and Fishing; Digging Roots.*—Many implements used in procuring food were found. By far the most numerous were chipped points of various sizes and shapes for arrows, knives and spears. The material commonly used for chipped points is glassy basalt. Practically all the smaller implements are made of this material. An unusually large number of fantastic forms of small chipped objects were found here. These are of the same material as the other small points.

It is remarkable that no rubbed stone points for arrows or spears, such as are numerous on the coast, were found, although rubbed fish-knives are quite common, and one rubbed slate point was obtained at Kamloops, 95 miles above Lytton in the Thompson valley.

The Indians now living in the valley of the Thompson River, near Lytton, still possess the art of chipping small stone arrow-points. To obtain the basalt they make journeys up the mountains, where they break it fresh from the quarry, in which state they claim that it can be worked more easily than the material sometimes obtained by breaking up the large chipped points found in the vicinity. These they believe were made by the raven before there were men on the earth, and they call them "raven arrows." Thus it would seem that at least the points were not made by the last few generations of the present tribe of Indians.

Two harpoon points made of antler, were found. Each point had two barbs on one side; and the base, which was slightly wedge-shaped, was perforated.

*Preparation of Food.*—Pestles or hammers served for crushing dried meat, berries, and other food. They are of various shapes, made usually from fine-grained, tough river pebbles, and many are much weathered. Some are simply cylindrical, in which case they are usually but slightly changed from the natural pebble by a little pecking or rubbing.

The typical pestle of Lytton has a well-defined head, larger than the tapering body, the sides of which meet the base at nearly right angles. These pestles seemed to have been used for rubbing as well as pounding. One of them, a fine-grained schistose gneiss, shows no evidence of having been used for pounding, but its corners and base are smooth.

Slate knives were discovered in excavating graves and hearths. They are similar in form to those now used on the coast for cutting up fish. A spoon made from the shell of a unio was found in one of the graves. It was the only spoon-like object discovered, and was partly filled with a gum resembling that from the pine of the neighborhood.

*Habitations.*—The houses of the prehistoric people of Lytton were similar to those used by the Indians up to recent times. This is evident from the large number of ancient house-pits at all of these sites explored.

The Thompson River Indians, who inhabit this area at the present time, used to live in underground lodges. This lodge is made by digging a circular hole in the ground, and erecting over it a framework of timbers shaped like a cottage roof. These timbers are covered with fir-boughs and earth. Since there is but little rain, a roof of this kind offers sufficient protection.

An opening is left in the center to serve not only as a chimney and window, but also as a door. A notched log—one end resting on the middle of the floor, the other projecting from this opening—constitutes the only means of entering the house.

When one of these houses goes to ruin, the circular pit is partly filled, but not enough to be entirely obliterated. It remains as a depression surrounded by a slight ridge. This ridge is composed of the earth and decomposed timbers of the roof. When the house is abandoned, much of the earth covering the roof slides down to the margin of the hole, where it accumulates, while the thin layer left on the roof only partly fills the room. Under the space where the composite door, window, and chimney were, the hole is left about as deep as ever, but may be partly filled with *debris* blown in by the wind.

For digging holes as well as for gathering roots the present Indians use a stick with a crutch-like handle. Such handles made of antler were found in the old village sites.

*Tools.*—Numerous wedges made of elk antler were obtained, which must have been very efficient for splitting timbers in the building of houses, for cutting firewood, and for general carpentry work. They were usually made from the large part of an elk antler, near its base, and cut off diagonally across. Some wedges which may have been used for special purposes were made of curved pieces of antler. They resemble in shape the curved wedges of the canoe builder of the coast Indians. The heads of some of the wedges are bruised and slivered by being driven with a stone pestle or maul. The use of a pestle for driving wedges gives it a concave base or one with a hollow in it. Rubbing tends to form a convex base. Some of the specimens have convex bases with a hollow in the centre. It seems probable that pestles were used for a variety of purposes.

The common deeply-pitted hammer-stone was not found at this locality; but stone hammers or mauls were secured, that probably had been hafted in some way, and used on both ends. They have a slight pit on either side, and the two ends are battered. One small granite pebble has a groove which extends nearly around it, and which, if continued, would form a spiral. There is no evidence of its use as a hammer-stone. It may have been a sinker, or it may have been covered with skin or other material and used as a club head. In the latter case the tendency of the groove to a spiral form would allow a withe to be firmly attached.

Oval boulders and flat pieces of sandstone were found which were probably anvils upon which to pound or to rub various substances.

The coast Indians use celts mounted as adzes for finishing the boards that have been split out with wedges. Until recently these celts were made of stone. Those found at Lytton are made of light green translucent material and vary in size from more than 4 inches in length by  $1\frac{1}{2}$  in width and  $\frac{1}{4}$  in thickness, to scarcely an inch in length, with other dimensions in relative proportion. On some the grooves which were made in cutting them out of the blocks of raw material still show slightly. Other specimens have been polished until no trace of these grooves remain.

These celts were made from boulders of greenstone secured along the river bank. Some of these are said to be nephrite. The series of specimens will illustrate their method of manufacture. Grooves were first ground or rubbed into the boulders. In some the grooves had been rubbed from both





REPRESENTATIVE ARCHÆOLOGICAL SPECIMENS\*

1 Chipped chalcodony point,  $\frac{1}{4}$ ; 2 chipped basalt point, 2-5; 3, 4, 5 & 6 fantastic chipped basalt forms,  $\frac{1}{2}$ ; 7 antler harpoon point,  $\frac{1}{8}$ ; 8 antler handle of digging stick,  $\frac{1}{4}$ ; 9 stone pestle,  $\frac{1}{8}$ ; 10 stone anvil,  $\frac{1}{8}$ ; 11 slate fish-knife,  $\frac{1}{4}$ ; 12 antler wedge,  $\frac{1}{4}$ ; 13 nephrite celt,  $\frac{1}{4}$ ; 14 serpentine from which pieces have been cut,  $\frac{1}{4}$ ; 15 grinding stone,  $\frac{1}{4}$ ; 16 stone club-head, 1-5; 17 stone skin scraper,  $\frac{1}{8}$ ; 18 whetstone,  $\frac{1}{4}$ ; 19 knife and handle,  $\frac{1}{8}$ ; 20 & 21 antler objects,  $\frac{1}{4}$ ; 22 bone awl,  $\frac{1}{4}$ ; 23 bone needle, 2-5; 24 pair of grooved stones,  $\frac{1}{4}$ ; 25 beaver tooth knife,  $\frac{1}{2}$ ; 26 bone skin scraper,  $\frac{1}{4}$ ; 27 copper war club, from Spuzzum,  $\frac{1}{8}$ ; 28 antler war club, 1-5; 29 & 30 copper ornaments,  $\frac{1}{2}$ ; 31 abalone shell objects,  $\frac{1}{4}$ ; 32 & 33 shell objects,  $\frac{1}{4}$ ; 34 mica pendant,  $\frac{1}{2}$ ; 35 bone pendant, 1-6; 36, 37, & 38 tooth pendants,  $\frac{1}{2}$ ; 39 hair tassel,  $\frac{1}{2}$ ; 40 & 41 dice,  $\frac{1}{2}$ ; 42 antler implement,  $\frac{1}{2}$ ; 43 pipe collected by Dr. Dawson,  $\frac{1}{3}$ ; 44 design on 43; 45 & 46 fragments of pipes,  $\frac{3}{8}$ ; 47 sculptured antler  $\frac{1}{2}$ .

\*Fractions indicate reductions.

sides until a portion was nearly cut off, after which it had been broken away. Such salvage pieces broken off from large boulders were found. A number of finished celts show this break along one or both edges. Fragments of siliceous sandstones with beveled edges that fit these grooves were obtained. They are evidently the saws or grinders used for cutting the grooves.

Whetstones, probably for sharpening celts, slate knives, etc., were made of fine grained schist. They were of frequent occurrence, and were usually found in a group of implements in graves at the main burial place.

Blades for small knives, used in wood-carving, were made from beaver teeth. The posterior side of the long curved tooth had been cut off, which made the tool thinner. The natural cutting edge of the tooth served as an excellent carving instrument. The base is rounded, and was probably inserted in a handle.

A knife-handle made of the rib-bone of some large animal was found in a grave with fragments of glassy basalt, one of which may have served as the blade. The end into which the blade was inserted is covered in places with gum similar to that of the pine. There are 12 notches or tally marks along the side, nearly obliterated by wear. The chipped point of glassy basalt figured with this bone handle, although found on the surface apart from it, shows how well adapted the handle is to the common forms of stone points.

Pairs of coarse siliceous sandstone implements, sometimes daubed with red ochre, were frequently found in the graves and scattered among the traces of hearths and village sites. In general these resemble the arrow shaft smoothers found in other parts of the continent. They have the form of a half cylinder with a groove extending the length of the flat side. When a pair of these are placed with their grooved faces together, they form a cylinder about 6 inches in length,  $1\frac{1}{2}$  inches in diameter, and with a central bore  $\frac{1}{4}$  of an inch in diameter.

Some fragments of skin, which were evidently portions of blankets or garments, were preserved by the dry climate and the action of copper salts. A considerable series of specimens was secured which suggests the preparation of skins and their manufacture into garments. Scrapers and awls made of stone and bone, and bone needles, belong to this series.

Skin scrapers were made of quartzite pebbles which occur in great numbers in the gravel on the bank of the river and on the mountain sides. Often almond shaped flakes were broken from these pebbles. These pieces are about one-third the thickness of the original pebbles. The finished skin scraper was simply one of these almond shaped flakes which had been perfected by being chipped all around the edge.

Many scrapers of this sort, and some natural fragments of convenient form from neighboring out-crops, have been seen in use among the women of this region for softening skins. They were inserted in the split end of a wooden handle about 3 feet in length, and held there by winding with a thong that portion of the wood that held the stone. After the skin has been fleshed and freed from hair, it is stretched upon a framework of poles and prevented from becoming hard and stiff by being scraped and poked with such a scraper until it is thoroughly dry. Scrapers were also made of bone, but they were of another shape.

Several of them were found finished, and some in process of manufacture. In an ancient grave at Spences Bridge, 22 miles above Lytton on the



Thompson River, a scraper of this kind was found with traces of wrapping at the ends. The Indians of to-day have a scraper of a similar shape, made from a horse's rib or a barrel hoop by winding the ends with rags to form handles. This they use like a draw knife to beam deer skins.

Awls and needles were required for the manufacture of garments. A pointed object made of steatite, about 1 inch long and  $\frac{1}{8}$  of an inch in diameter, smoothly polished, was found, as were also several natural pieces of chalcedony which may have been used for awls. The chipped specimen of glassy basalt and the chipped opalescent chalcedony more closely resemble what are usually called "drills" or "perforators." The bone awls are well adapted for use in sewing skins.

Needles made of bone, both fine and coarse, were found in the graves, and scattered through the ground. Each of them was provided with an elliptical eye, with its major axis lying in the axis of the needle.

*War.*—Many of the implements that were used for hunting were undoubtedly also used in warfare. The points for arrows, spears and knives certainly served either purpose. A number of special war implements have been found. A large dagger or knife made of antler, and much weathered by long exposure, was found on the surface of the main burial site; and from the excavations a much disintegrated war club of particular interest was secured. It is made of an elk antler. The prong near the base is beveled in the shape of a wedge, and the longer branch forms the handle.

A copper war club was obtained by Mr. James Teit from Indians who dug it out of a prehistoric grave at Spuzzum, B. C. This place is at the mouth of the canyon of the Fraser, 42 miles South from Lytton. The practical difficulties of the journey were great before contact with the whites; but the geographical nearness, and the fact that the present Indians of Spuzzum are of the same tribe as those of Lytton, induce me to describe this specimen with those from Lytton. Its edge is beveled, and in some places is knife-like. The grip and base are flanged by lateral pounding, and a design is engraved on each side of the blade.

*Dress and Ornament.*—Skins and garments woven of bark of the sagebrush and of mountain goat wool probably furnished the material for clothing for the prehistoric people of Lytton. Fragments of deer skin and fabric woven from vegetable fibre, probably sagebrush, and a considerable number and variety of personal ornaments, were found. Red, blue, yellow, and white paint, and probably charcoal mixed with grease, were used for painting the body. Combs were in use, and body and clothing were decorated with ornaments and pendants of copper, stone, shell, bone, teeth and hair. A fragment of a comb made of antler came from the surface of the main burial place. It is much bleached and weathered.

A pair of copper ornaments was found in a grave a foot and a half deep at the main burial site. The body was so much decayed that it was impossible to see what position they occupied in relation to it. There are some pieces of hair preserved and embedded in the copper salts which incrust them. These ornaments resemble in shape similar copper objects which were used in recent times as hair ornaments for girls by certain tribes of the coast.

Other copper ornaments were found while excavating in the main burial place, but the skeleton with which they were buried was too much decayed to distinguish the part of the body upon which they were worn.

They are very thin, much corroded, and may have served as bangles or pendants. A number of pendants or bangles made of sheet mica were found in one of the graves which contained a great variety of objects.

Many irregular pieces of the shell of *Pecten caurinus* with edges rubbed smooth and with one or two perforations, were found in the excavations at the sixth site, and fragments of the same shell were found scattered on the surface of the fifth site. Some of them were daubed with red ochre. Several pieces of abalone shell, with squared edges, were found. One was perforated as a pendant. Such shell ornaments are now highly prized by the coast Indians on account of the iridescence of the shell.

Pendants made of the canine teeth of the elk were found in large numbers in the graves. Sometimes they were lying in the vicinity of the neck bones of the skeleton. The perforation drilled from side to side through the base of the root is usually worn smooth, and many of these objects are stained by copper salts. This again proves that ornaments made of copper were in use. Mr. James Teit has learned from the Indians that elk teeth were often sewed on the garments, and also fastened to the prows and gunwales of canoes with string or gum. One pendant was made of the canine tooth of a wolf, perforated through the root for suspension, and ornamented with three grooves running around it.

Shell beads of various kinds were used for necklaces, fringes, and the like. There are perforated disks or short cylindrical beads which average  $\frac{1}{8}$  of an inch in diameter, 1-32 of an inch in thickness, with a perforation about 1-32 of an inch in diameter, drilled with a bevel from each side. Specimens of these shell beads were so numerous on certain parts of the surface of the main village site, that after picking up a great many of them, their number seemed undiminished. Dentalium shells, and sections of these shells cut about  $\frac{1}{8}$  of an inch in length, were found, as well as little olivella shells, the ends of all of the latter being broken off, probably to make a hole for stringing. Some of these olivella shells had holes in the body near the lip, which, however, may have been merely accidental. In one of the graves some short cylindrical beads made of sections of dentalium shells were found still upon a portion of the string, which had been preserved by the dryness of the sand. According to identification by Mr. Willard N. Clute, this string is made of the bark of the red cedar. This material is more commonly used on the coast, and may have been imported with the shell beads upon it.

Several tassels made of dentalium shell and hair were found. These tassels are much stained by copper salts. A doubled lock of hair, held in the middle by a loop of string the strands of which are twisted to the right, was pulled up into the shell.

*Games, Amusements, Narcotics.*—Sets of dice were often found with other objects at the sides of the skeletons. Although beaver-teeth, some of which were covered with red ochre, were found in the same places, and dice made of beaver-teeth were secured from prehistoric graves at Kamloops, B. C., yet all of the dice found here were made from the teeth of the woodchuck. These are so much like the dice made of beaver-teeth which the modern Indians of British Columbia use, that our knowledge of that game enables us to explain these specimens. The counting varies slightly at different places, but the game is practically the same.



The practice of smoking is indicated by the presence of stone pipes. The present Indians of this region mix bearberry with their tobacco to render it less strong for smoking. According to information obtained by Mr. James Teit, before the introduction of manufactured tobacco, the wild, narrow leaved tobacco of the region was used.

The pipes were made from steatite. Blocks of the raw material broken from the rock, and pieces of the same which had been cut and rubbed, were found on the surface. Finished pipes, highly polished, and ornamented with incised lines, have been found *in situ* in the old graves. The bowl of this style of pipe is of the shape of a wine glass, and the stem is simply an extension of the bowl, the axes of both being in a straight line.

*Art.*—The art of these people is illustrated by paintings, engravings, and carvings, and also by the ornaments used for personal adornment. A small boulder was found on which there was a circle painted in red. Many pieces of bone, antler, etc., are also stained with red ochre, which may or may not have been intentionally applied.

The incised lines on some of the bone tubes that were found may have been intended as decorations. The handle of a digging stick made of antler bears an incised design at each end. The similarity of these designs to those used by the present Indians induced me to request Mr. James Teit to submit drawings of these specimens to several old Indians. Their interpretations are as follows:—

The ladder-like design is a snake or worm pattern, which is intended to represent the striped skin of those animals. When used as patterns in ornamentation, these were generally drawn or carved without showing the head or tail of the animal. The two end designs on the large half of the handle represent a hairy insect. The long line with numerous short lines at right angles to it depicts a snake or a worm, which was probably the manitou of the woman who owned the handle, as it was customary for women having such guardian spirits to carve representations of them on their root diggers. Snakes, wood-worms and other insects, were among the manitous most commonly possessed by women in this region. The root digger and the thumpline were themselves the manitous of some women. The lines which cross each other probably represent cross-trails. The circular design on one specimen represents the butterfly or the eye. The short lines with one very short mark extending from the middle of each may be a sign of the wood-worm, as may also the long lines with marks at right angles to them.

It was customary for men to carve on their pipes, and chiefly on sacred pipes, representations of the beings appearing in their dreams, especially in their first important dream in which they received their manitou. Owing to the secrecy of treatment of sacred objects, it is difficult to obtain specific interpretations of such designs, for these secrets would be kept by the individual even from his friends, and with his death the knowledge of the significance of the design would pass away.

Among the present Indians the following conventional designs are frequently used. A long line and short strokes arranged at regular intervals perpendicular to it usually represent hair or something similar growing from a surface, as trees from the earth. Zigzag lines represent snake-tracks; when they run down, they may mean lightning. Long, straight lines represent trails, creeks, the earth, etc. The grouping of the patterns

on such objects determines the meaning to a certain extent. The similarity of the art designs of the prehistoric people to those of the present native is the strongest argument in favor of the theory that the culture of this area has not materially changed since the times when the prehistoric burial ground of Lytton was in use and the prehistoric sites were inhabited.

Pipes made of steatite, besides being engraved, were sometimes carved. On some there is a ring about the tube where the bowl joins the stem; on others there is a mouthpiece with incised ornamentation. The bowl of a pipe, a fragment only of which was found, was in the form of a head of an animal with its mouth wide open. The material is steatite. A very beautiful animal form carved in antler has a hole drilled through it, tapering from below upward; and another hole from the posterior end of the carving runs forward about  $\frac{1}{4}$  of an inch. The legs stand out in relief, while the stripes on the sides are incised. The piece has been broken or decayed in such a way that it is impossible to tell how much, if any is lacking. A head of the same style of carving, in the same material, was found. These carvings so closely resemble each other that one may easily be taken for a fragment of the other.

These animal carvings are entirely different from the engraved designs, and of a higher order of art, which resembles that of both the old and recent coast culture perhaps more than anything else found near Lytton.

No specimens of the ceramic art were found. The modern Indians boil food by dropping hot stones into water-tight baskets containing it.

*Method of Burial.*—Dr. Dawson, in his notes on the Shuswap, refers to bodies found buried sitting upright, and to others lying upon the side. In still other cases he found a few bones placed in such a manner as to suggest that they were buried after the decomposition of the soft parts. Dawson\* saw the Indians in Nicola valley reburying a body that had been dead for about a year. He found the heads of many bodies covered with red ochre, which still adhered to the skull when it was taken up. He considers that the objects buried with the dead were to represent their property rather than to be of any future use to them. For instance, flakes of glassy basalt and crooked arrow points would represent property, though in themselves of little value. Quartz crystals, calcite, mica and stone objects resembling slate-pencils, were found. He saw no iron, and believes that some of the graves at least antedate the coming of the whites to the west coast of America. The bones of small animals and bear teeth indicate that some were hunters, and the stone adzes suggest canoe manufacture. At Lillooet, about 40 miles to the north, Dr. Dawson discovered beads or pendants of galena, and many flat bone beads such as were frequently found by us at Kamloops, but which we did not see at Lytton. He found bodies at Lillooet wrapped in bark.

We did not find any grave in which the body was in a sitting posture. The description of a few graves will serve as examples of the types of graves found by us. In one of them the head was to the east, and the pelvis to the west. The feet were drawn up to the pelvis, so that the knees were in front of the chest. The head rested on the right side. The arms were flexed parallel to the body, with the hands to the face. The whole body rested horizontally. The depth in the shifting sand was a foot and a half,

\**Transactions of the Royal Society of Canada, Section II., 1891, p. 13.*



that originally may have been a few inches or from 10 to 15 feet, according to the changes in the superimposed sand caused by the wind. There was a knife made of a beaver tooth at one knee; and many implements of antler and a beaver tooth were in such a position as to suggest that they had been placed in a pouch. This bundle of objects extended in the direction from knee to face.

In another burial the skeleton lay with the head to the north. The body and head were covered with birch bark. Red paint was found at the shins; and white and yellow paint, 6 inches east of the pelvis, or one foot east of the heels. The heels were toward the south, the face toward the west. The body rested in a horizontal position on its right side. The hands were over the face and forehead. Near the chin were dentalia, copper covering a wooden cylinder, as well as pieces of loose copper, and perforated elk teeth stained by the copper. A nephrite celt was secured from below the lower end of the left femur, with the sharp edge toward the east. Charred berries were found above the shoulder. Six inches east of the head were an arrow-point, roughly chipped points, chips, a little nephrite celt, red paint, bone needles and other implements, a knife point made of a beaver-tooth, and animal teeth. Five inches east of the middle of the back a long celt was found.

The skeleton of a young adult lay with head to the north. The body had been flexed as usual. The face was to the east. Little black arrow points were found throughout the grave. Some beaver teeth and red paint were found between the middle of the tibia and the femur of the right leg the left leg was not flexed quite so close as the right.

A group of antler implements and chips of black stone, probably the contents of a pouch, were located a few feet east of this grave, and 4 inches directly west of another skeleton of an older individual, which faced west, with the head to the south. The latter skeleton was disarranged either by the wind or because it had been reburied. With it were found chipped points of stone and pieces of the same material. A pair of grooved arrow-shaft smoothers, 3 whetstones, several finely carved pieces of antler, bone awls and needles, a bone scraper and pendants, dice made of wood-chuck teeth, white paint, pendants of mica, and bits of birch bark.

Grotesquely formed pebbles of various bright and clear colors were sometimes found in the graves, and these may have been prized as amulets or charms. There were some irregular piles of human bones. In the typical graves the bodies were buried upon the side, with the knees drawn up to the chest. They were often covered with pieces of birch bark as was evidenced by small fragments preserved by the dry soil. At the side, in a position indicating that they were buried in a pouch, were found pieces of glassy basalt, points chipped out of the same material, celts, and a number of other implements, varying with each grave. Near the neck elk tooth pendants were frequently found.

Closely rolled pieces of birch bark varying from 1 to 6 inches in length, rolled to a diameter of from  $\frac{1}{2}$  an inch to 1 inch, were found in the hearths, scattered over the village sites and over the graves. Whether these originally had paintings or drawings on them is not known. Many of them have been partly burned, which suggests their use as torches.

Pieces of birch bark were sometimes buried with the dead by both the Thompson River Indians and the Lillooets. The latter tribe now extends

from some 40 miles above Lytton into the valley next west, as far south as Harrison Lake. The Lillooets formerly wrapped some of their dead in birch bark, and often lined the graves with the same material.

*Conclusions.*—The prehistoric culture of the interior of British Columbia as evidenced by finds at Lytton, Kamloops, and Spences Bridge, was quite uniform, although there may have been slight variations in these localities. On the whole this culture resembles that of the present inhabitants of the interior of British Columbia. The mode of life of the prehistoric tribes, their utensils, their methods of manufacture, and even their customs must have been practically the same as those of the recent Indians. One of the strongest evidences for the identity of culture is the ability of the modern Indians to interpret the conventional designs found on prehistoric remains.

There are, however, slight differences between the prehistoric and the recent cultures. These are indicated by the change in the style of arrow heads, which were much larger among the prehistoric people. The ancient type of pipe resembles the prehistoric pipe of Oregon and California, while the recent pipe is practically of the same type as that found on the plains. No indications were found suggesting that the prehistoric tribes knew the potter's art, which, up to the present time, is unknown in this area.

The style of carving exhibited in some of the specimens suggests that at this early time the people of the interior of British Columbia were influenced by the coast tribes, who have developed a very high plastic art. The use of slate fish knives and harpoon points may be due to the same cause. The occurrence of dentalium and olivella shells, and of pendants made of the shells of *Pecten caurinus* and abalone from the Pacific Coast, proves the existence of intertribal trade in that direction. On the whole, however, the prehistoric culture of the interior of British Columbia shows greater affinity to that of the western plateaus than to that of the North Pacific coast. Up to this time we have no evidence of a change of type or of a material change of culture since the earliest times of which we have knowledge.

\* \* \* \*

### A REMARKABLE PREHISTORIC CEREMONIAL PIPE

BY COLONEL CORNELIUS CADLE

UPON the west bank of the Tennessee River, one-half mile north of Pittsburg Landing, Tenn., and on the Shiloh Battlefield, are seven prehistoric mounds, within a space of about 25 acres. The excavations for building these mounds are plainly apparent, nearby.

The largest of these mounds is at the junction of Dill's Branch and the Tennessee river, upon a bluff 125 feet above low water; built immediately upon the edge, and with such a steep descent to the river as to be practically unclimbable. This mound is 80 feet square, about 25 feet high, covered with large white-oak trees.

The other mounds are oval in the base plan, and the special one that I write of, and have opened, is about the average size of the smaller mounds, viz. 86 feet in its long and 56 feet in its short diameter; 10 feet and 2 inches high from the original surface at its center. All these mounds have large oak trees upon them.





FOUR VIEWS OF A PREHISTORIC PIPE FROM A MOUND ON THE SHILOH BATTLEFIELD

In June, 1899, I commenced driving, in one of the smaller mounds, an open cut,  $4\frac{1}{2}$  feet wide, its axis the long diameter; commencing at the base. After three days work, and the work was done with the utmost care, the first "find" was a crumbling skeleton, very near the center and  $3\frac{1}{2}$  feet from the top. This was evidently an "intrusive" grave, but not recent. The body had been buried in a recumbent position, looking up the Tennessee River, which is in full view, its feet to the north; and at each ear of the skull were two ornaments of shell, concave at the top and lined with very thin copper. The copper had corroded so there was only left upon one, a piece thinner than writing paper, about the size of one's finger nail, but the concavity of each ornament was of the characteristic green copper carbonate color.

Continuing the work we reached the center, driving about 2 feet further. This cut, commencing at the surface, was driven at a slight angle upward for drainage in case of rain, and because I expected to make a "find" on the original surface and at the center. For a space of about 4 by 5 feet in the center, 8 inches above the original surface (the surface of the cut), the ground, upon striking it with the handle of a shovel, sounded hollow. Going back toward the entrance, 1 foot from the resounding area, a hole was dug 2 feet deep and across the cut, and with knife and fingers the earth slowly taken away, toward the supposed "hollow." We were rewarded in an hour or two by finding first that this "hollow" area had been covered with large logs. Carefully removing this wood, which was decayed, we found the remains of three bodies, the crania, the vertebrae, the arm and leg bones; apparently laid upon the surface of the ground before the mound was started, either in a sitting position; or possibly the bones had been brought there for reinterment, and the burial place had been timbered so as to form a cell or room, but the wood in decaying had caused a cave-in, filling up the room. With one of these skeletons was an ear ornament similar to those described above, but more crude in shape and without the copper lining.

About the center of this burial space we struck something that looked like an arm in stone. For two hours we carefully excavated and dug, not daring to use any implement but our knives and fingers, and were rewarded by finding a pipe in human form, bent on one knee, the bowl and place for the mouth-piece in the back. It is about 10 inches high, carved apparently from either "Catlinite," the "red-pipe stone of Minnesota" or a similar stone. It is the most perfect piece of prehistoric carving that I have seen, much superior in artistic work to any thing of the kind described and illustrated in Force, Short, Bancroft, Thruston and others, or that I have seen in various collections. The pipe was broken at the neck, but has been cemented.

Theories regarding the Mound Builders are useless. But the mound in question seems to show that three persons of importance, with their ceremonial pipe, were placed upon the surface of the ground, covered with logs, and a mound containing about 1,000 cubic yards of earth placed over them.

Pottery was found in the mound, all broken; the pipe was broken. It may be that as their Chiefs had gone to "the shades" they sent, "killing" by breaking, all their paraphernalia, so that the impersonal necessities might become "shades" for their owners' use in the Hereafter.



## Notes

IT IS REPORTED that the Archæological Committee at Athens has decided to restore the Erechtheion, the greater part of which is still standing, while all the fragments needed for the restoration lie on the ground near it.

THE PALESTINE EXPLORATION FUND, of London, is going to excavate the biblical Gezer, with Mr. Stuart Macalister and Dr. Bliss in charge of the work. It is expected that this will be a very fruitful site as it is the place in which the French archæologist Clermont-Ganneau discovered bilingual inscriptions (Hebrew and Greek) "which define the limits of the ancient city."

AT POMPEII during September, 1901, there was discovered a marble bas-relief on which is depicted a sacrifice of a ram to Aphrodite. She is seated on a rock holding a lotos-sceptre. Six persons are approaching her, the foremost leading the ram. There are two children in the group. There was also found "a giallo antico head of a Maenad from a terminal figure wearing an ivy wreath," and numerous terra-cottas.

DR. GRENFELL AND DR. HUNT who have recently returned from Egypt, where they have been carrying on excavations for the Egypt Exploration Fund, report a very successful season. They spent two months in the interesting Fayum district, "where they obtained a large number of Ptolemaic papyri, Greek and demotic. In one cemetery was found a number of crocodile mummies which were stuffed with papyrus rolls, like those discovered in 1900 at Tebtunis." The rest of the season they spent on the east bank of the Nile between Benisuef and Minia at Hibeh. In the Ptolemaic cemetery here they found that papyri had been commonly used "in making the cartonnage of mummies."

TWO REMARKABLE BRONZE ETRUSCAN BUSTS have recently been found at Chiüsi, that Italian town which has always been so famous for its "bronzes, mirrors, vases and funeral urns." One of these busts is of a male figure with "pronounced features and a beard indicated by incisions as on black-figured vases; the hair is long and covered with a sort of cap, and the chest is covered with scales, which may indicate a fish-body" in which respect it resembles representations of Triton. "The bust is hollow and the inner surface has been strengthened with lead; it has been mounted on wood and seems to have been used for carrying about in processions." The other figure represents a goddess "necklaces and hair falling in plaits on the shoulders presumably a feminine counterpart of the other, however, it is inferior in workmanship although of the same general type." Sig. Milani considers this a bust of Zeus but it may be a Triton type. These busts date from "about 600 B.C."

ENGLISH DISCOVERIES FOR THE PAST MONTH.—A bust of Nero has been unearthed at Caerleon, England, and a stone cist near Dundee which contained a skeleton and an iron ornament belonging to the Roman period. At Haverhill the bones of a mammoth have been discovered, one of its tusks was 6½ and the other 4½ feet long. The tusks were "almost in a state of powder," but the teeth were well preserved. In leveling off a mound 10 feet high and 40 feet in diameter, which is situated near Camberlay, 18 urns containing calcined bones were discovered. "The urns are all of rude British make" but were accompanied

by no weapons or ornaments by which to determine the exact age. Mr. Shrubsole, curator of the Anthropological and Geological department of the Reading Museum, thinks "we should not be far wrong in saying that they belong to the age of Bronze, and probably to a late rather than an early date in that age in this country."

DR. BORCHARDT has been uncovering the chapel belonging to King Ne-woser-Re. A chapel situated at Abusir, Egypt, which dates about 2500 B.C. There is a broad causeway which was built up from the valley to the entrance of the sanctuary. Within there was found a large open court surrounded by colonnades, and beyond were other rooms and galleries, and halls which were adorned with reliefs. There were also found some tombs dating from 2000 to 1700 B.C. Some of these tombs contained besides the sarcophagi articles which the departed would need in the next world. This neighborhood was also used as a burying place as late as the time of the Greeks. In a sarcophagus of this later period was found a Greek papyrus

containing the dithyramb on the Persian wars by Timotheus of Milet (about 400 B.C.), a somewhat long composition by a Greek lyric poet, who has hitherto been known only by name. This work, so highly renowned in ancient times, is the first specimen of this kind of poetry that has been found whilst the manuscript itself, which probably dates from the close of the IV century B.C., is the oldest of all the Greek papyrus manuscripts so far discovered, and is not more than 50 years removed from the death of the poet.

MR. JOHN CARSTANG, a young English archæologist, has just published a book entitled *El-Arabah: A Cemetery of the Middle Kingdom. Survey of the Old Kingdom Temenos*, etc., in which he sets forth the results of his work on the site of ancient Abydos. Among the interesting and important discoveries which he has made is a flat limestone slab on which are recorded the Glorious deeds in Nubia and Palestine which an officer named Sebek-khew accomplished under King Sen-wosret III. (1880-1850 B.C.)

'His Majesty,' says Sebek-khew, 'went north to subdue the Mentiu-Setet' (that is, the Asiatic Bedween). He came to a great district called Sekmem. When his Majesty resolved to return to his palace (that is his native country), Sekmem allied itself (?) with the vulgar Retenu (that is, Palestine). 'I formed the rear-guard of the army. The soldiers of the army fought with the Asiatics; I took an Asiatic prisoner, and had him disarmed by two of my soldiers. Without wavering in battle, my face was set forward; I did not show my back to a single Asiatic. As King Sen-wosret liveth, I have spoken the truth. And the king presented me with a staff of white gold, and other weapons.'

The location of Sekmem is not known but probably lies in Southern Palestine. This inscription shows how far the kings of the XII dynasty extended their campaign into Asiatic territory.

It has hitherto been supposed that these wars did not begin until the establishment of the new empire, after the expulsion of the Hyksos. This new information is also important in other respects. Sometime ago, C. Sethe, professor in Göttingen, endeavored to prove that the original of Sesostriis, the Egyptian hero-king frequently glorified in Greek legends, is not to be sought in Rameses II, as was commonly assumed, but rather (following Manetho) among the Pharaohs of the XII dynasty, known as Sen-wosret, especially in Sen-wosret I. Sethe showed that almost everything that the Greeks say of Sesostriis fits the Egyptian Sen-wosret I and his successors. Of the Asiatic campaigns, so highly extolled in Greek narratives, not a word had hitherto come to us from Egyptian sources. The inscription found at Abydos now supplies this lack.

THE ANCIENT RUINS OF RHODESIA.—It has been generally considered that the exploration in Rhodesia had been practically completed by the labors of Bent, Mauch, Baines, Maund, Willoughby, Swan, Schlichter and White. However, a recent book by R. N. Hall and W. G. Neal shows that the work has in reality scarcely been begun. This book is the result of 6 years exploration in the region included between "the Zambesi and the Limpopo," and extending at some points "into the conterminous districts of North Transvaal and Bechuana-land." Scarcely a tenth part of the 115,000 square miles which are included in this region have been thoroughly explored, and yet in this area, there have already been discovered "more than 500 temples, citadels, enclosures, chains of forts,



gold workings, and terraced slopes." Below most of these structures there lies from "10 to 15 feet of accumulated debris of ages" which is untouched as yet. Nevertheless the date of the structures so far examined goes back to 1000 and some possibly to 2000 B.C. Mr. A. H. Keane, in reviewing this book [*Nature*, May 8, 1902], calls special attention to the facts which indicate that Rhodesia was the locality from which the gold of David and Solomon's time was procured.

'Where else but Rhodesia did the ancient Sabæans obtain the vast supply of gold which they purveyed to Phœnicia, Egypt, and the rest of the then known world? The only answer possible at present is: Rhodesia; and the later discoveries in Rhodesia only serve to strengthen and emphasize this answer.' Hence the inference that Rhodesia was the Biblical Ophir, though the point is not regarded as settled. Indeed in their preface . . . the authors seem inclined to adopt the modified view that Rhodesia was the source and Ophir in South Arabia the importer and distributor, of these treasures throughout the ancient world.

All the different implements, machinery and products of these gold-miners and -smiths, including quartz crushers, "crucibles showing gold in the flux," gold beads, wire, thin sheets, etc., have been found. The total amount of gold already collected from these sources is over "2000 ozs."

THE AUTHORITIES OF THE IMPERIAL RUSSIAN MUSEUM at St. Petersburg are transporting a large "block of stone 12 feet long and 8 feet wide containing a well-preserved bilingual inscription, i.e., Greek and Palmyrene, which is supposed to date from the III century of our era. The inscription is said to contain the tariffs of customs, duties and taxes levied during that period, divided into 3 tables." This inscription was discovered several years ago by the Russian Prince Abemalak Sazareff. The work of transporting it to St. Petersburg is being superintended by Prof. Uspensky a member of the Russian Archaeological Institute. Palmyra or Tadmor has had a peculiarly interesting history, due to its situation in the midst of the Syrian desert "50 hours ride or 150 miles northeast of Damascus." Although it is not located on the shortest route between the Phœnician ports and the Persian Gulf it has for 2000 years diverted the caravan travel to itself on account of its fine springs of water and the political sagacity of its merchants and rulers. At present it is only a small town but from the I to the III centuries of our era it was at its zenith of power. Much of this time it was under Roman control but yet held a practically independent position, especially during the middle and the later part of the III century when Odænathus and his wife Zenobia ruled the city. To the Romans Odænathus was a subject, but to the Arabs and Bedouins he was an "independent sovereign, supreme over all the lands from Armenia to Arabia." The wealth of inscriptions which have been found in Palmyra is due to the fad of erecting monuments to those merchants who organized and successfully conducted large caravans across the desert. These monuments took the form of pillars and statues which lined the streets. "Thus arose besides minor streets, the great central avenue which, starting from a triumphal arch near the great temple of the Sun, formed the main axis of the city from southeast to northwest for a length of 1240 yards, and at one time consisted of not less than 750 columns of rosy-white limestones each 55 feet high." Through this avenue passed the motley crowd of Saracen, Jewish, Persian and Armenian merchants with their caravans and attendants to whom the city owed its existence.

THE GREEKS IN INDIA, is the title of a book by Comte Goblet d'Alviella, which has been recently published in Paris. There has been a great deal written on the influence of the Greeks in the East, where inscribed pillars have been found even as far off as Hindustan proving the extent of this influence. Furthermore Colonel Biddulph has reported tribes among the mountains of Hindu Kush "as fair as Europeans, drinking wine, using chairs, and talking dialects even now betraying traces of Greek idiom." Mr. Vincent Smith has shown that the influence of Greece "prevailed on the banks of the Indus for about two centuries before the

Christian era." In fact for the last 50 years there has been a great deal written on this subject. Mr. H. G. Keene in reviewing Count Goblet d' Alviella's work in the *Calcutta Review* brings out the following points:

Among the incontestable facts one has no hesitation in accepting are these: From the time of the invasion of Alexander—who, in 326 B.C., planted colonies and founded cities in the Punjab—the Greek language was known and used in that part of India, as well as in what is known as Turkistan. After the death of the great Macedonian the valley of the Upper Oxus was made into the Province of Bactria, attached to the Seleukid kingdom of Syria; becoming a distinct realm under Diodotus about 256 B.C. This separation of the satrapy was synchronous with an extension of the Buddhist Empire of Palibothra under Asoka who adopted the Bactrian alphabet, and employed it in one of his famous edicts in the extreme N. W. This may indicate that the Macedonian colonies in India were not very strong or influential in the days of Asoka; but that Emperor was himself partly Greek by birth, his grandmother being a daughter of Selenkos. In any case, whatever decline the colonies may have experienced under Asoka, was amply retrieved in the succeeding century, when the success of the Parthians completely separated the Bactrian Greek from their base in Syria, but turned their face towards the south of the Hindu Kush pass. Under this pressure Demetrius—the then Basileus appears to have settled in what is now called 'Sind-Sāgar Duāb'—where he issued bilingual coins, and some with his own haughty Greek countenance surmounted by a helmet made out of, or in the likeness of an elephant's head. About 175 B.C. Demetrius—known in ancient Indian books as Dattamitra—was replaced by a military adventurer named Eucratides, as related by Justin, the historian of the Macedonians. Eucratides, in his turn, was succeeded—and probably killed—by Heliocles (155-120 B.C.) in whose time the dynasty was finally expelled from Bactria, and forced to reside entirely upon Indian territory, by the overwhelming incursions of a Scythian tribe which has been identified with the Jats; the Parthians even became tributary to those enterprising barbarians who, for a moment probably preferred not to entangle themselves in the southward passes.

The first purely Indo-Greek King was, apparently, Apollodotus, celebrated in the *Mahabhārata* under the slightly disguised form of Bhagadatta: he is there said to have been 'King of the Yavanas' (or Ionians) whose superiority in fighting power is candidly allowed: This Grecian ruler is represented in the epic as the ally of Arjuna in the battle of Kurukhet, near the modern Panipat, so often the scene of Indian battles.

The culmination of the Grecian influence was reached under Menander who was probably the immediate successor of Apollodotus. Coins with his stamp have been found widely scattered from Cabul to Muttra. Three of these coins "are engraved in M. Goblet's book, and each bears strong signs of likeness: the forehead being in each case high, the nose prominent, and the mouth and chin of refined boldness." There is a Greek inscription on one side and its translation in Sanskrit on the other. The following quotation will give you an idea of the character of the Menander as it has been handed down to us. "Venerable lord!" said a Buddhist doctor, to him on one of the occasions under reference, "Do you desire to argue as a scholar, or as a King?" "What may be the difference?" asked His Majesty. 'The difference,' replied the sage, 'is this: when scholars argue there is no violence, and the one who is convicted of error has to acknowledge his conviction. When the King disputes on the other hand, those who disagree with him are liable to be punished by his people.' 'In that case,' announced Menander, 'let us be scholars: Your Reverence is free to cast aside all reserve, as if discussing with a colleague, a disciple, or slave.'

The Scythians followed the Greeks across the Hindu Kush mountains and for a while the two ruled side by side during the later part of the I century B.C. Mr. Keene concludes that the Grecian influence was "confined almost entirely to æsthetic matters, such as medal casting, architecture, statuary and some forms of literary art."







*Amelia B Edwards*



# RECORDS <sup>OF</sup> THE PAST

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## AMELIA BLANFORD EDWARDS

BY WILLIAM COPLEY WINSLOW, D.D., LL.D., D.C.L.

NOT in our century, perhaps not in all time, has a more versatile woman than Miss Amelia B. Edwards, Ph.D., L.H.D., LL.D., appeared. As an Egyptologist she was many-sided; she knew Egypt personally, and its history completely; she particularly mastered the literature of research and exploration, and caught the freshest news of every discovery; and as the *Saturday Review* said: "No other writer did so much to render Egypt popular. Hers was preeminently the role of interpreter." Yet Miss Edwards was profoundly interested in discoveries that cast light upon philological and ethnical questions that related to the sciences as well as the arts of Egypt and contemporary nations, and she had a fair knowledge of the hieroglyphic text. She was the first person to identify the Cypriote and Phœnician signs upon Dr. Petrie's potsherds from the Fayum, and her paper read by Dr. Cust at the Congress of Orientalists in Stockholm [1889], attracted wide attention and led to the conclusion that the Græco-Phœnician alphabet was in use in Egypt before the period of the Exodus. Her hieroglyphic-ship was beautiful and clear and artistic.

Among many treasures are 3 brochures in MS. upon the antiquities sent to America, in which even the off-hand hieroglyphic emblems are exquisitely formed; and her sketch in ink of the original of Langtrety Grange, on the fly-leaf in the first volume of *Lord Brackenbury*, is as artistic a souvenir as an author could present with his book to a friend. Said the *Academy*: "She must have contributed to our columns more than 100 articles, many of considerable length and all requiring some research. We know not whether to admire in them most the brilliancy of their narrative style, or the accuracy with which each detail was verified." Here let me site from one of her fugitive poems named *Deserted*, and I do not know whether it is in her *Ballads* that appeared in 1865:

As the river flowed then, the river flows still,  
 In ripple and foam and spray,  
 On by the church and round by the hill,  
 And under the sluice of the old burnt mill,  
 And out to the fading day.  
 But I love it no more; for delight grows cold  
 When the song is sung and the tale is told,  
 And the heart is given away!

This is the woman who, as an incipient Egyptologist, in 1874, wriggled in "through an aperture about a foot and a half square" in her discoveries at Abou Simbel, as graphically told by her in *A Thousand Miles Up the Nile*—that classic with her own illustrations, whose pocket edition is to-day almost indispensable to the thoughtful tourist in Egypt.

But I must hasten towards a climax fitting to RECORDS OF THE PAST. Born on June 7, 1831, Miss Edwards died on Good Friday, 1892. At the age of 7 she furnished a poem, *The Knights of Old*, for a weekly journal; at 9 she won the prize for a temperance story; at 14 she sent George Cruikshanks, for *The Omnibus*, a tale, with such deft caricature pencillings, that he was inspired thereby to call on her; at 20 she rang out her musical notes with such flexibility and compass that the opera seemed to be her distinct profession; at 24 she published her first novel, *My Brother's Wife*, and, at 33 *Barbara's History*, still devotedly re-read by her admirers. At the age of 35 Miss Edwards was a reviewer on the staff of the *Morning Post*, *Saturday Review*, *Graphic*, *Illustrated News* and other journals. Among her novels, not mentioned above, are: *Half-a-Million of Money*; *Miss Carew*; *In the Days of My Youth*; *Monsieur Maurice*; *Hand and Glove*, and *Dehenham's Vow*. *Lord Brackenbury*, that combinative novel of travel, scenery, incident, society and plot, appeared in *The Graphic*, and was translated into French, German, Italian and Russian. Her spirited book, *Untrodden Peaks and Unfrequented Valleys*, upon the Dolomite Mountains, illustrated by herself, is most entertaining. The Irish wit and humor of Miss Edwards' mother, who was from the famous Walpole family, and the energy and character of her father, a distinguished officer of the Peninsular war, was finely united in their remarkable daughter. Her conversation abounded in humor, clever bits of description, and a warm sympathy, which irresistibly entertained and moved the listener. Even her most staid lectures could not exclude a delicate and delightful humor.

In 1883, Miss Edwards, with Sir Erasmus Wilson and Prof. R. Stuart Poole, founded the Egypt Exploration Fund. "As a child," she tells us, "Wilkinson's *Manners and Customs of the Ancient Egyptians* shared my affections with the *Arabian Nights*. I knew every one of the 600 illustrations by heart." By nature and by grace she was an Egyptologist. In 1882 appeared in *Harper's Magazine* her brilliant paper on the finding of the royal mummies at Thebes, entitled, *Lying in State at Cairo*. She assisted substantially Sir E. Wilson in his invaluable book, *The Egypt of the Past*. One of her pamphlets is, in substance, her paper read at the Congress of Orientalists in Leyden, in 1884 upon *A Fragment of a Mummy Case*. In 1886, her brochure on the *Dispersion of Egyptian Antiquities* attracted much attention. *The Story of Tanis* (Zoan) in *Harper's Magazine*, October, 1886, is without a peer as an archæological paper in a popular magazine. *Bubastis: an Historical Study*, in the January *Century Magazine*, 1890, has a similar touch in





CLIFFS ON THE NILE AT SILSILIS, RICH IN TOMBS AND VOTIVE SHRINES DATING FROM THE VI TO XXII DYNASTIES

study. Her constant writing for *The Times* and her colloquial style in her lectures, led to this simple style, which is characteristic in her *Pharaohs, Fellahs and Explorers*, her splendid volume, containing the substance of her best lectures in the United States. Miss Edwards' translation (with notes) of Maspero's *Egyptian Achæology*, her volume of lectures, her *Thousand Miles Up the Nile*, her revised Wilson's *Egypt*, together with her brochures, magazine articles, her scores of review and descriptive papers, reveal to us her capacity as an Egyptologist. Her mental structure was exceedingly broad, but her abilities to convey her knowledge intelligently, captivatingly, to others, was phenomenal—and, in the realm of archæology, peerless.

No single achievement of my life is more gratifying to me than the successful effort to induce Miss Edwards to come to America. I secured some 200 signatures endorsing the proposed visit, including those of Whittier, Holmes, Lowell, Curtis, Parkman, and of the editors of the Magazines, about all the leading university and college presidents, etc., etc. What I predicted, having in mind her lectures in Great Britain, was abundantly confirmed by her tour of 120 lectures in the United States:

The picturesqueness of her style, the interest of her facts, and the sympathetic charm of her delivery have evoked unwonted enthusiasm. Her voice is peculiarly clear, agreeable and far-reaching, and she possesses, in a remarkable degree, the power of holding her audiences. Herself a practical archæologist, she relates the wonders of our inheritance in ancient Egypt and the stirring story of Egyptian exploration, with an intelligent vividness which makes those far-away subjects as

interesting as a sensational romance. Herself a skilled artist, she can, in an instant, deftly illustrate with chalk some hieroglyphic puzzle or curious relationship between Egyptian and Greek art.

It is perhaps no improper secret to tell, that Miss Edwards netted \$10,000 from her tour, whose opening lecture in the Brooklyn [N. Y.] Academy of Music on November 7, 1889, was preceded by an address of welcome from the Rev. Dr. Richard S. Storrs. She made a noble use of her little property in establishing, by her will, the "Edwards Chair of Egyptology" at University College, London, now so brilliantly occupied by Dr. Petrie.

It was owing to Miss Edwards' inspiration that, in 1883-4, I began my work for the Egypt Exploration Fund and established its American branch, which soon rivalled the parent tree. I know, if any one does, her immense



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labors for our society, and she knew that I gave my best strength to the work. She was a constant inspiration to my literary and financial efforts to advance our cause. At its centennial, in 1887, Columbia bestowed L.H.D. upon Miss Edwards, and the first honorary degree conferred by Smith was LL.D. for her. But was she not a born *Academician* and Egyptologist? I asked Miss Edwards just on the eve of her return, what had impressed her most, and one of her answers was, "Your opportunities for education—especially for women." May our colleges give us Amelia B. Edwards-like, scholarly, imaginative souls to take up the burden of her song in the promotion of exploration.

MY LAST SKETCH FINISHED, I wander slowly round from spot to spot, saying farewell to Pharaoh's Bed, to the Painted Columns, to every terrace, and palm, and shrine, and familiar point of view. I peep once again into the mystic chamber



of Osiris. I see the sun set for the last time from the roof of the Temple of Isis. Then, when all that wondrous flush of rose and gold has died away, comes the warm afterglow. No words can paint the melancholy beauty of Philæ at this hour. The surrounding mountains stand out jagged and purple against a pale amber sky. The Nile is glassy. Not a breath, not a bubble, troubles the inverted landscape. Every palm is twofold; every stone is doubled. The big boulders in mid-stream are reflected so perfectly that it is impossible to tell where the rock ends and the water begins. The temples, meanwhile, have turned to a subdued golden bronze, and the pylons are peopled with shapes that glow with fantastic life and look ready to step down from their places.

The solitude is perfect, and there is a magical stillness in the air. I hear a mother crooning to her baby on the neighboring island—a sparrow twittering in its little nest in the capital of a column below my feet—a vulture screaming plaintively among the rocks in the far distance. I look; I listen; I promise myself that I will remember it all in years to come—all the solemn hills, these silent colonnades, these deep, quiet spaces of shadow, these sleeping palms. Lingered till it is all but dark, I at last bid them farewell, fearing lest I behold them no more.—From *A Thousand Miles Up the Nile*, by Miss Amelia B. Edwards, LL.D.



"I HEAR A MOTHER CROONING TO  
HER BABY ON A NEIGHBORING ISLAND"

\* \* \* \*

## J. DE MORGAN'S WORK IN PERSIA

BY J. DE MORGAN

**T**HAT the public has but a small conception of the magnitude of the work of exploration in the center of ancient civilization, is evident from the question, repeatedly asked, will there be enough new material to fill a monthly Magazine? and M. de Morgan's statement that it may require 20 years to complete the excavations at Susa. One can almost count upon his fingers the ruins of cities where work has been undertaken, and the mounds are almost innumerable still awaiting the spade of the excavator to make their contributions to the history of the past.

It was in 1897 that M. de Morgan resigned his position as Director General of the Antiquities of Egypt, to go to Persia at the request of the French Government, which had secured from the Shah the exclusive right to excavate in the ruins of the ancient cities of his country. As will be seen from the sketch of M. de Morgan's life and work which appeared in the May number, 1902, of *RECORDS OF THE PAST*, he was not a stranger to Persia.

While still at work in Egypt he held to the theory that the civilization of the Pharaohs of Egypt was of Asiatic origin. The results of his first season's work\* confirm him in this belief.

The following abstract from his report, given in his own words, will interest the public in M. de Morgan's work at Susa. In a subsequent number of RECORDS OF THE PAST, the results of later excavations made by M. de Morgan in Persia will be presented. [EDITOR.]

#### FROM TEHERAN TO SUSA

The trip from Teheran to Susa, was accomplished very rapidly and under the most adverse conditions for explorations and archæological observations. Compelled as I was, by circumstances to abandon the usual road from Korremabad, I had to cross the Pouch-e-Kouh mountains and travel unfortunately through a country yet unexplored, where ruins of all epochs are very abundant. From Teheran, which I left on November 3, 1897, to Derre-i-Chahr, on the Sein-Merre, which I reached on the 29th of the same month, I went through known countries, or at least regions which I had crossed in 1892, the description of which I have already published. From Derre-i-Chahr, I marched to the southwest, crossing the great wall of the Kebir-Kouh mountains, then descending in the valleys, connected by their natural declivities either with Mesopotamia or Sisiana. I had visited these valleys in 1892; at that time the Vali of Pouch-e-Kouh was at war with the Beni-Lams Arabs. Between the Kebir-Kouh and the Dinar-Kouh mountainous range, located on the southwest of the main range, we met with some unimportant ruins of the Sassanian period. It is beyond the south of the Dinar-Kouh, that are located the valleys which were more settled in ancient times.

At a locality called Kelatch are standing the ruins of a Sassanian city, which was quite important. The citadel stood on an abrupt rock overlooking the plain by at least 40 metres. At the foot of this rock were scattered the remains of buildings similar to those of Derre-i-Chahr, that is to say made of pebbles cemented with plaster. In this locality is running a small stream of sulfurous and saline water. It would be difficult to conceive how such a small rill could have supplied such a populous city, if the remains of numerous works of canalization did not give evidence that sweet water was brought here from far away in the mountains.

Kelatch is located some 150 kilometres from the Kerkha, to the north of this river, the nearest point being between Paie-Poul and Eican-i-Kerkha. Between Kelatch and Susiana, a broad valley is spreading, barren to-day, but formerly flourishing. Here are often to be seen remains of ancient canals, which used to bring to the cities and to the country water from the rivers flowing towards Mesopotamia. They form to-day the river Tib, a left-side effluent of the Euphrates. This valley appears with an average width of about 20 kilometres, and is formed by two ranges of mountains, on one side the Dinar-Kouh, on the other the ranges which running near Bayat, extends to the southeast as far as Ram-Hormuz, where it joins the Karoun, the threshold of Ahwaz. The natural stratigraphic formation of the soil, would have naturally brought the drainage of this watershed toward the Kerkha, if on the right side of this river, hills had not been formed,

\**Compte Rendue Sommaire des Travaux Archæologiques Exécutés Du 3 Novembre, 1897, Au 1er Juin, 1898, Delegation en Perse.* Par J. de Morgan, Paris: Ernest Leroux, Editeur, 1898.



unimportant in height, but yet sufficient to prevent the flowing of water, which, unable to break the southeastern obstruction, cut through the Bayat gate and now runs towards Mesopotamia. We have seen that the Persians of the Sassanian period inhabited this district, but the remains of their presence are far less abundant than those of greater antiquity. In the Mesopotamian plain, in the Turkish territory, there is a huge mound, Seba-et-Kherib, in Arab. Tchegar-riz, in Persian *C'est la*. On this spot, supported by the general study of the country, and the Assyrian war annals, I have on my map of Elam, located the site of the city of Gamboulou, the name which possibly may have belonged to the whole district of which I have already spoken.

At Bayat stands also a large mound, the remains of the fortified city that guarded the pass. Then in the valley itself we met with Tepeh-Chakal-espi (the mound of the white jackal), Tepeh-Miziaw, Tepeh-Rameh-horde (the mound of the stolen herd). Tepeh-Patak, and a number of more or less important mounds, being evidence of the great wealth of this country in ancient times, which is now a desert. Of all the mounds of which I have spoken, the most important after those of Bayat, Tchegar-riz is the one called Tepeh-Miziaw. It is composed of two distinct parts, the larger one or northern is surrounded by a rectangular wall. Every thing in these ruins conveys the idea of a large city, even of a royal city surrounded by its suburbs and overlooked by its Acropolis. A long canal coming from the mountains, and at present well preserved, used to bring sweet water to the various parts of the city. Although I was not able to do anything more than ascertain the presence of these mounds, rushed as I was by the insecurity of the country I was crossing, I have no doubt that they must be ascribed to a very remote antiquity. Near one of them (Tepeh-Patak) I found a fragment of a limestone club, similar to those discovered at Susa, moreover the debris of bases and the general aspect of the ruins does not permit of any other conclusion.

The natives call this plain Decht-e-Akhbar. These territories are successively occupied during winter by the Beni-Lams Arabs, the Sehgvends, or by the Poucht-e-Kouh tribes, but there does not exist any kind of village or dwelling.

The Decht-e-Akhbar, most certainly played a very important part in prehistoric times; it was in the close vicinity of Susa, on the most direct and best road from this capital to Babylon. Between these two cities, via Bayat, the caravans could make the journey in 10 days, so it is easy to understand the care that the Anzan Kings took to fortify it. Excavations there, would surely be of the highest interest, but how could they be undertaken to-day, in a country where unceasingly circulate the scum of the Louritan and Chaldea's people? Those very brigands themselves would have to be employed as workmen! After having crossed rapidly this curious region, I arrived at Dizfoul on December 7th and at Susa on the 16th of the same month, and on December 18, 1897, the work was begun with the opening of a mining gallery.

#### EXCAVATIONS AT SUSA

M. de Morgan's staff during the first season's work at Susa consisted of Messrs. G. Jequer, M. G. Lampre and M. J. E. Gautier. Father Schiel, the eminent assyriologist, was detained in Europe. Each of his assistants were put in charge of a different department of the work. They had all



worked with him in Egypt. Mr. Lampre was made secretary of the expedition. His long residence in Persia specially fitted him to discharge the duties of his post.

M. de Morgan says that during this first season's work he was constantly annoyed with all sorts of difficulties arising from the uncivilized condition of the country and fanaticism of the natives. They had to get used to the European methods of labor, while the local government, in spite of the Shah's Firmans, did not realize at once their meaning.

As soon as I arrived at Susa, says M. de Morgan, my first care was to carry through the mound of "the citadel" mining galleries, in order to study the various levels before starting any open cuts. I selected as center for my preliminary investigations, one of the highest points of the tumulus, the southern extremity, the altitude of which above the surrounding plain, is about 35 metres [over 110 feet]. Guiding myself by the inspection of the debris met with on the ground, I opened 5 galleries, at the east of the mound's extremity, so the rubbish could be thrown into the ditch which, during the Achemenid period, separated the citadel from the royal city.

In 1891, I noticed that the slopes of this part of the tumulus contained more cut flints and a greater number of painted vases and fragments than any other part of the ruins. So I was positive, that while working through those thick beds, I would find the remains of the oldest civilizations. The opening of a gallery at the very level of the plain necessitating extensive clearings, I postponed it for the time being, and designate this gallery letter



A, which will correspond to the o of the ruins' altitude, for at this point the plain is lower than anywhere else. The 5 galleries opened this winter correspond to the letters B, C, D, E, F [see plan of ruins].

The gallery B was opened at an altitude of 10m. 93 above the plain, and 24m. 90 below the mound's summit, and was carried to a distance of 45½ metres. It went through fine yellowish dust, very compact, containing numerous fragments of pottery decorated with black painting, and sometimes red or brown. This ceramic is very remarkable by the fineness of its paste, by the skill with which it is executed, and also by the originality of its ornamentation. It is far superior to those found in the higher levels of the mound. The vase ornamentations are sometimes very complicated and composed of geometric lines, though often these are to be found on the fragments of cylindrical or conical vases, pictures of birds, representing, if I am not mistaken, echassiers, and similar in make to the images or same kind decorating Egypt's prehistoric vases. The ornaments of the finest paste, are enamelled in black like the Greek vases; the red and brown designs being most frequently on the rough paste and will disappear when persistently washed with a brush. Besides those fragments of vases, gallery B has supplied few cut flint debris.

Gallery C was opened at a level of 14m. 30 above the plain, 20m. 70 below the mound's top and was carried to a distance of 38m. 90 in a soil similar to the lower bed, but containing here and there heaps of ashes and charcoal. From this level the ceramic's nature changes, there are also fine potteries, but in small quantity, and coarse clay vases, with or without ornament, predominate in the clearings. Cut flints are more abundant than in the inferior beds. There are flakes, few nuclei, and among those objects are pieces of sickles similar to those set by the primitive Egyptians in their wooden implements. I have found at various levels, and also at the surface of the mound, quite a great number of pieces from sickles, some having retained the bitumen used in fastening them to the wood, nearly all showing on the edge a polish that has been given by use. The same fact is always observed in Egypt. I have made previously the remark in my *Recherches sur les origines de l'Egypte*, that the culture of wheat could never have originated in the Nile valley, cereals not existing in an aboriginal state in Egypt. I have relied on this fact, among others in my attempt to prove the Asiatic origin of the first Egyptians, or at least of their civilization. This argument would have had a far greater value, had I known, as I have to-day observed, that the same tool provided with flint flakes, was used in Mesopotamia as well as in Egypt, for harvesting grains, which here are growing naturally all over the country and even on Susa's mounds.

Gallery D was opened at a level of 18m. 20 above the plain, 16m. 80 below the top of the mound, and was carried 55 metres. This work was cut through a thick bed composed of ashes, charcoal, numerous fragments of vases, cut flints and of more or less charred bones. Very coarse vases and very few new fragments are found bearing rudimentary paintings, many are simply hand-made without the help of a wheel, others are wheel-made and roughly adorned with one or several wavy lines made with a pointed reed. Gallery D level is above all that of nuclei and cut flint. Flakes and nuclei are found there in immense heaps, and by thousands. It seems as if the workmen had dumped there in this part of the mound all the refuse of their workshops. Among the flakes I found none, if I except a few

pieces from sickles, that had been recut. I must also mention as coming from these strata, some clubs made of a circular and flat pebble perforated in the center. I have mentioned weapons of this type in the prehistoric station of Tepeh-Goulan, in the Poucht-e-Kouh. I have also found some near Tepeh-Patak, in the plain, on the right side of the Kerkha river, some 150 kilometres inland. At Susa, as at other prehistoric stations they accompany the nuclei. Extensive moving of ground having taken place in the mound at Susa, during the Anzanite (Elamite) as well as during the Achemenide period, flint implements as well as painted vases, are often found in those disturbed beds, but the natural strata for these objects are only the lower beds of the mound.

Gallery E was opened 21 metres above the plain's level, 12m. 59 below the mound's summit, and went 40 metres inside, at this level a new change takes place. In connection with clubs, flint flakes, nuclei and coarse vases, are also found fragments of baked bricks. But it is more especially at the level of gallery F that these changes are more complete. Here we are in the midst of the debris of a far advanced civilization, in possession of metals and of the main rules of construction.

Gallery F was opened 25m. 07 above the plain's level and 8m. 90 below the mound's summit, and was carried inside a distance of 45 metres. It met with a well, lined with large terra cotta tubes, cemented with plaster, and at last a baked brick wall.

No characteristic object, no inscribed brick having been exhumed, I could not, from the sole information supplied by this work, determine the approximate date of this wall. I felt, however, like attributing it to the Anzanite period, when discoveries made in trench No. 7 at a depth of 4 metres, proved that I was not mistaken.

To conclude with these underground works, I must also mention shaft A, intended to cross-cut the galleries and supply the workmen with necessary ventilation. This shaft was sunk only to the depth of 9m. 50 below the mound's surface; the top of the Anzanite level having been discovered in trench No. 7, mining work became unnecessary. The small amount of material extracted from the galleries, the contiguity of the surface explored through this process, do not permit of determining with absolute certainty the nature of the various beds forming the mound of the Susa citadel, but these excavations have supplied us with valuable information that will guide us. We know now that at a depth of from 4m. 50 is the level of the first Anzanite city, of the one that was destroyed by Assurbanipal's soldiers. We know also that the levels of the various epochs are coming in regular sequence down to the beds containing the remains of the prehistoric period. Then it will be sufficient to successively remove the various beds to be able to draw the plans, and to separate the documents of the various epochs.

Assurbanipal tells us that before his coming to Susiana, Susa had never been captured by foreigners, so we must expect to find in perfect order the remains of the various Anzanite civilizations. For we know from the information furnished by the galleries, that at all times, the site of Susa was inhabited.

This Græco-Persian necropolis covered all the central and southern part of the mound known as "the royal city," its systematic exploration will certainly supply interesting documents of the time when discarded Susa was nearing its complete disappearance. I will not enter here into the details



of the political causes of Susa's complete downfall. But there is an important natural fact that has not been mentioned, and which, I believe was the main cause of the abandonment of this spot, which had played, for thousands of years, such a predominant part in the history and political economy of the "Persian Mesopotamia." The river Kerkha (the Choaspes, the Ulai) was formerly flowing at the foot of the Susa citadel, it has receded now some two kilometres towards the west and its water, drinkable in all seasons, has been replaced by that of the Chaour, and other streams which are unhealthy, feverish and impregnated with salts and decomposed organic matter, which are only fit to drink during the few winter months, December—March, then rain lessens the bad effects of the poisonous substances by diluting their solution.

The Chaour and the other brooks which rise out of the old gravel alluviums from the Kerkha have their bottoms covered with a black slime with a fetid smell from which are constantly bubbling hydrocarbids and sulphur gases. The swamp gas is formed by the decomposition of organic matter yet remaining in the slime brought formerly by the Kerkha. The sulphurous gases and the salts come from the thick gypsum beds which form the bottom ground in the greater part of upper Anzan. These beds which can be followed from Kherkouk in Turkey, as far as Dinar-Kouh (part of the Pouch-e-Kouh), sink under the Susiana's alluvium to reappear near Ram-Hormuz, on the southwest of the plain. They give birth, on all the Mesopotamian slope of the Pouch-e-Kouh to saline and sulphurous hot springs. The same waters, springing out of the deep beds, mix themselves with the infiltrations from the Kerkha and supply the Chaour and the neighboring rills.

The Kerkha is not free from the same morbid principles, but such a large mass of water flows that their effects are not to be dreaded, although this river at low water during summer deposits on its shore various salts, sulphates of soda, potash, magnesia, etc.

At what time did this change take place in the water supply of the Kerkha? The ruins which are the best witnesses of this transformation, provide us with an approximate date.

Between the present mounds of Susa and the Kerkha's western shore, we often fall in with ruins; walls made of baked bricks (of small dimensions) cemented with plaster, and belonging to the period which I call Græco-Persian. So we are positive that a great many of the late epoch's ruins have been either buried under the mud from the Kerkha, or torn from the ground by its current.

On the right side of the big river, can be seen a great many mounds, covering altogether a length of several kilometres. These mounds which contain ruins of the same nature as those of Susa, are but the city's extension toward the west. In ancient times, Susa, then immense, was extended on both banks of the river, and most probably water was brought into the various parts of the city by canals.

The nature of the walls which are to be seen in the lower valley alluviums, show that the change in the Kerkha's course took place at the beginning of the Græco-Persian period, the pipes and drains which attend the late period's buildings, prove that it became necessary then to gather rain water for the wants of the inhabitants. Susa's decline, and may be

its complete desertion, is proven by the Sassanian sovereign's establishing a large fortified camp, at a spot now called Eivan-i-Kerkha on the right bank of the river.

If Susa's site had been still inhabitable at that time, never would the Sassanians have abandoned, a strategical position rendered so strong by the height of the mounds. If they resigned themselves to this relinquishment. It was because drinkable water had deserted the kings of Anzan's ancient capital, and that the Kerkha had transferred itself to where it runs to-day.

I was compelled to go into these details, when speaking of trench No. 1, because without these explanations, it would have been difficult to understand the direction which I gave to my excavations. A careful inspection of the surface has led me to consider the mounds called "the citadel" and "the royal city" as the main Achemenid centres and the mound of "the citadel" and the southern part of "the royal city" as being the site of the most important Anzanite buildings. So I have concentrated my labors in the ruins on those two points, in order not to scatter my resources in an attempt to reconstruct at once the topography of a city, which, as I have just explained, covered both sides of the river, a surface of at least 1,500 hectares [some 3,000 acres].

In Trench No. 3 were found a great many alabaster vase fragments. Alabaster was known to the Anzanites and the Persians used it extensively. One of the broken vases has been nearly reconstructed, another one unfortunately broken, bears a triangular inscription with the name of Xerxes. This text, as far as I know, is the first one of this king, ever found in the ruins of Susa.

Below the Achemenid flooring, and its bitten clay support, is a kind of conglomerate made of bricks, entire or broken, mixed up with vase fragments. This bed is remarkable for the total absence of enameled pottery, such as we found in the upper beds.

The bricks, above mentioned, are made of brown clay mixed with straw, generally darker inside than out, and they vary in dimensions. These materials belong to the Anzanite period, as is proved by the texts engraved on them with a pointed tool, on which appear the names of Sutruk-Nakhunta, Kudur-Nakhunta, Silhak and other yet unknown kings. The Rev. Father Scheil will make this the subject of a special study.

#### INSCRIBED BRICKS

The inscriptions discovered up to the present time in the Susa's mounds are of three different kinds:

1. Inscriptions traced on the flat part inside of a square in the centre of the brick. These texts were intended to be sunk into the masonry and to be seen only after the pulling down of the building. This custom was intended to keep for posterity, the king's name and is very common in Chaldæ, but seems to be very rare in Susa. During all this campaign of excavations but 5 or 6 specimens of it were found.

2. Inscriptions traced parallel to the brick horizontal edges. In this way quarter bricks, half bricks, three quarters and whole bricks were also found with an entering in the return angle. The texts appear on any of the edges and often on two consecutive ones.



3. Inscriptions traced in columns, perpendicular to the horizontal borders of the brick. The remarks in the preceding ones will apply to this class of bricks.

The texts of the two last types were intended to be placed in the wall facings, either outside of the buildings, or more probably, inside of the rooms, hallways and gates. They could be read by everybody. Each brick bears a complete text, and was not necessarily part of a longer inscription. Sometimes the lines of the text are carried on two consecutive edges (angles) but more generally when a brick is inscribed on two edges, the two texts are independent. I have not yet, unfortunately, found any of these bricks *in situ* in the walls, but I am tempted to believe that inscriptions in the Anzanite palaces were running in long stripes, along the rooms, crossing the doors, for they occupied not only the edge, but also two consecutive edges and in the return angle, the two edges in the three-quartered bricks. It must be noticed that none of those texts are stamped in as is the case in Mesopotamia. They are all traced with a graver. Some are very carefully drawn. This accounts for the numerous variations in similar texts from the same king.

Besides the brown clay bricks used in the Anzanite buildings, in trench No. 3 were also found a few specimens of very curiously enameled bricks, the use of which is not yet known. These bricks, the composition of which is similar to the Achaemenid enameled material, are made of pulverized conglomerated sandstone. They vary much in shape. Some are square and flat, others nearly cubic, others are very irregular and seem to have been part of *bas reliefs*, the figures of which were covered with inscriptions. At any rate, writing covers nearly all the sides, so we may wonder on what side could such material rest in the masonry, and if they were not sunk inside of the walls, being used as corner or foundation stones. I had to discard this last supposition, for in this case all the faces would have been inscribed and it is not so. I am more inclined to believe that these materials were used in furniture or small monuments decorating the inside of temples and palaces. Further excavations will very likely throw light on this point.

Artaxerxes Mnemon's Apadana crowning one of the most important mounds of the "Royal City" is Susa's largest Achaemenid monument. Although having a great similitude with the already well known Pessepoli buildings, as it differs from them in some points, it is important to carefully observe the smallest architectural details. This is the first consideration that induced me to undertake important excavations on this spot, viz.:

1. To find the enameled brick decorations which must have adorned the walls outside and inside of the building.

2. To find traces of the first Achaemenid building erected on the mound, viz.: Darius Apadana, torn down by Artaxerxes Mnemon, in order to be rebuilt on a larger scale.

3. At about 100 metres from the Apadana, in the ditch where was found the archers' frieze, now in the Louvre, there are to be seen in the Achaemenid, sun dried brick walls and many older materials, which can unquestionably be attributed to the Anzanite period. So the thing to know was whether under the foundations of the large Persian building, and not in its vicinity only, were remains of a building dating way back to the Elamite epoch. This last point could not be ascertained as it will be seen further

on, on account of the material difficulties which prevented going down below the Achemenid foundations. Nevertheless I am ready to believe that there was no important Anzanite building on this site. The baked bricks are not only covered with inscriptions, but I have found several specimens with reliefs from portions of pictures representing human figures or ornaments. Then the walls of the rooms were not only decorated with borders of inscriptions, but also with real *bas-reliefs*, in which bricks took the place of stone in the Nineveh palaces.

We found quite a large number of enameled sandstone bricks and large knobs of the same material, which seemed to have decorated some smaller structures inside of the building. Both knobs and bricks are covered with inscriptions, the reading of which is made very trying on account of the glaze covering the signs. Then, the custom of decorating buildings with pictures made with glazed or unglazed bricks, is at Susa much anterior to the Persians. We know that this process was applied in Babylon and Nineveh at a very early time, but it is curious to find it also at Susa under the kings of Anzan.

At the time of Susa's destruction it was ransacked and so systematically torn down that none of the objects that it contained could be found *in situ*. Assurbanipal tells us of his soldiers' eagerness in the destruction of the palaces of the kings of Anzan, "That they upset the winged bulls guarding the gates." Excavations show us that they also upset the steles, the obelisks, and all the written traces of their enemies' past grandeur. In the report of Assurbanipal I see the reason why the walls were torn down nearly to their base. On their bricks were inscribed the names of the kings and they were destroyed because the Assyrian conqueror did not want even the memory of the kings of Anzan to outlive their kingdoms.

I will now enumerate the various monuments found in the palace. None of them were found *in situ*, all of them in spite of their weight had been dragged outside of the building.

1. *Bronze Table*.—This very interesting piece is 1m. 60 in length, om. 70 wide, with an average thickness of om. 30. It was found at the bottom of trench No. 7 outside, but at the same level as the pavement. It is made of an irregular slab perforated with 4 holes on the sides, and bordered with two enormous snakes. Five human figures, the upper part of the bodies only being still preserved, supported this table on the two sides, and at one end, while the other one was set in the wall. The modeling of the human figures is remarkable; the arms slightly distant from the bodies are folded over the abdomen. The hands were firmly grasping a now broken off object. The heads and the lower parts of the body are wanting, and so are the heads of the snakes. All projecting parts were broken. In some places can be seen traces of the hammering. Then, the soldiers of Assurbanipal dragged outside of the palace, this mass of bronze, hoping that they could carry it away, but they were compelled by its immense weight, to abandon it in the ruins.

2. *Granite Obelisk*.—Discovered in the rubbish at the starting point of Trench 7, this obelisk is 1m. 40 in height. The 4 faces are equal 2 and 2, the largest one being om. 60 at the base, and the smallest om. 50.

The 4 faces are covered with a text deeply cut into the granite, they show 75 horizontal lines divided into more than 1,500 small columns, in all



nearly 10,000 signs. This very archaic text is unquestionably the longest ever found in Mesopotamia and in the neighboring countries; it is almost complete, for the break at the obelisk's top destroys but a very small part of the inscription.

### 3. *The Large Stele.*—

This monument is the largest exhumed at Susa during the last campaign of excavations. It is 2 metres high, the greatest width being 1m. 05. At the top are 3 singular representations of the Sun with its rays. Below is the helmeted King, armed with an arrow in the right hand and a bow in the left. He wears a semi-long costume and sandals, a dagger is passed through his belt. His beard is long according to the Chaldæan and Assyrian fashion. This figure treads under his feet dead enemies, while in front of him another one falls wounded and attempts to pull out the arrow which pierces him; further still another one raises his hands in supplication; Under the King's feet are heaped up dead bodies, some of them remarkably treated, their attitude is correct and very elaborate. Below the King, and ascending a grade are 3 sign bearers, the left hand resting on the dagger fastened in their belts, the right holding the banner. These figures wear long dresses and helmets. Below



STELE OF NARAM-SIN? ABOUT 3800 B.C. SUSAN

the sign bearers, soldiers are coming next with various armaments. Facing the sign bearers and soldiers are represented two trees, and between them are enemies turning in a submissive attitude. The whole scene takes place in the mountains, the King followed by his standard bearers and soldiers, is pursuing his enemies as far as an abrupt peak entirely covered by a long inscription. Other enemies are playing in the forests or making their submission. Unfortunately this stele had to stand the effects of a big conflagration, the stone has been split in many places, and one of its scalings has

carried away the whole text that stood above the King's head. I had to fill in the base with plaster, in order to be able to take a substantial squeeze of this monument to preserve so valuable a document, for I fear that it will not stand transportation.

In spite of these injuries, the stele is a very important monument of the Elamite art. The composition is well put together and the execution entirely satisfactory, the figures are of good proportion, well treated in the ensemble and in the details, showing that the Anzanites had reached an artistic skill in no way inferior to what we know of their neighbors, the Assyrians and the Chaldæans.

4. *The White Pebble*.—I call by the name pebbles large drifted stones, roughly cut, with four faces and bearing inscriptions with pictures, making them in fact real stele, although these blocks have none of the usual shapes. The "white pebble" is a very hard yellowish white limestone om. 57 high with a maximum width of om. 32. At the top is a coiled snake, below are two panels, encircling the whole of the pebble. On the top panel, om. 07 high are two suns, the moon, two houses covered with two high conical tops, a scorpion and some other much defaced but similar representations. In the lower panel, om. 10 high are fantastic forms of animals and squares inserted into one another. The lower part of the stone, for a space of om. 40 had been covered with 23 lines of engraved inscriptions. Unfortunately part of this writing has been pounded and rubbed by the sharpening of tools so these texts are far from being complete.

5. *The Black Pebble*.—This stone is entirely intact. It is a black bituminous limestone similar to the one used later on by the Achemenids to adorn their palaces. The dimensions are: height om. 50, maximum length om. 20, at the summit is a coiled snake seen on its flat side, the block is decorated on its 4 sides, viz. 1. At the top a star, the Moon, the Sun, below a figure (likely a king) seated on a rectangular seat. He wears long hair with a plait behind the ear, is beardless, with a cap and a long robe, in the Chaldæan style, hanging to the ankles and fastened at the waist with a belt. The wrists are adorned with bracelets, he is raising his hands as a sign of adoration before a scorpion facing him. At his feet is a lion, the fore part of which only is visible, the rest being hidden by the King's form. Under this figure is an inscription of 5 lines. 2. This side is horizontally divided into 5 panels: In the top one are two small square buildings with conic roofs. In the second one, two small square buildings, the left one has been hammered. In the third panel are 4 standards (?) or religious emblems. In the fourth panel a hawk perching on a roost, or next to this a stretched bull (?) carrying on his back two undulating v-shaped lines reaching the panel above. In the lower panel is an inscription of 5 lines. 3. Two columns of text, the left one counting 37 lines, the right one only 33. 4. Two columns of writing, each of 35 lines.

I do not mention a great many stone fragments bearing inscriptions discovered in trench No. 7 and 7a, as their nomenclature would be tedious. They will be published in a special work by the Rev. Father O. V. Scheil.

Such are the results which have been obtained in Trenches No. 7 and 7a. They are of the highest importance as bearing on the researches to follow. First, they brought out parts of the palaces; then we have been able to observe this fact, very important, for the next coming work, that



below 4 metres we have only to look for the Anzanite remains. The debris of the 25 centuries separating our own from the time of Susa's capture by Assurbanipal, are all contained in these 4 metres of rubbish.

The fort had a garrison, and at the same time was possibly used as a treasure house by the Persian kings. When Alexander captured Susa, he found there 9,000 gold talents. It is possible that these riches may have been heaped up in store rooms erected within the citadel but it is more probable that following the Oriental mode, the treasure was stored in the palace rooms not far from the Apadana.

In any case, the presence in the citadel of a strong garrison with the officers, is enough to explain the discovery of the column base that I have mentioned.

Towards the opening of trench No. 7, the Achemenid wall was cut in various places, to make room for Græco-Persian buildings without much interest. This proves that after the Macedonian conquest, the Achemenid walls crumbled into ruins, and even that the whole of Susa was dismantled. Private dwellings were then erected all over the "royal city" upon the ruins of palaces, and even over the remains of fortifications. After Alexander, Susa the Grand, ruined, fallen from her rank of capital, was already beginning to disappear, and if in her decline she lived a few more centuries, it was due to the continuation of her commercial importance. Palaces had been burnt, walls had crumbled, kings and their courts had vanished, but this did not prevent the inhabitants from still coming to Susa to dispose of their products. The memory of the decline, did remain in the country. The nomads even today, give the name of *Cazr* (market) to the space occupied by the Achemenid stronghold. The *Kerkha* by changing its course, the canal by getting filled up, completed the downfall of the city, which had been for more than 3000 years one of the most important in Asia.

In the interior of rooms I found large masses of charcoal and ashes, charred debris of coatings from the upper part of the buildings, few coarse clay vase fragments, human and animal calcine bones, a table covered with Cuneiform inscriptions, inscribed baked bricks, and a few shapeless pieces of bronze.

This aspect of the place proves that the Anzantine Susa was set on fire. We know this from the report left by Assurbanipal, and the description left by the Assyrian texts, supplies the most satisfactory explanation.

"During one month and one day," says King Assurbanipal, "I swept the land clean entirely of the male voices, of the wandering oxen and sheep, of the resoundings of jolly music, I deprived these countries, and I cast in the wild animals, the snakes, the beasts from the desert and the gazelles." The ruin was complete, and of this we find evidence at each stroke of the pick-axe.

The kings of Anzan used to be great builders. This we know by a few of their inscriptions that have been already translated. They held monuments in high esteem, and as soon as they were going to ruin they used to pull them down in order to rebuild others on a new plan. This explains why we find in the ruins so much material used anew and having been part of older buildings. We have recorded with the greatest care on the plans and sections, the spot of each inscribed brick. In this way we will separate

the materials belonging to the buildings themselves, from those that have been used anew. In this way, we will obtain the date of the places and temples, and also the history of those who preceded them on a spot where they cover their ruins. The remains of the various buildings, being in this way superimposed, it is impossible to reach a lower level without removing every part of the upper one. So I have taken the greatest care to note all the details belonging to the level that we are now studying. This plan will supply the architectural records of Susa, and will be of great value in studying the general history of Anzan.

#### CONCLUSIONS

The study of the surface of Susa's mounds and the excavations during the season 1897-98, have brought forth the following results:

*Anzanite Ruins.*—1. The main Anzanite sites are: the whole of the mound called "The Citadel" and the southern part of the mound called "The Royal City."

2. Other Anzanite sites are located east of the Apadana, at Tepeh Soleiman (3 kilometres north of Susa) and in other mounds near the large one.

3. In the mound called "The Citadel" the Anzanite upper level (contemporary with Assurbanipal) is at an average depth of  $4\frac{1}{2}$  metres.

4. At the time of Susa's destruction by the Assyrians all the monuments that could not be carried away were upset without being damaged.

*Achemenid Ruins.*—1. The main Achemenid center seems to have been the mound called "The Royal City."

2. The depth of the Achemenid level below the present ground surface varies between 1 [Apadana] and 9 metres [trench No. 2].

3. The Achemenid citadel formed by a single enclosing wall encircling the edge of the mound's top does not seem to have contained any building of great importance.

*Græco-Persian Ruins.*—After Susa's capture by Alexander the Great, no important buildings seem to have been erected at Susa.

*Sassanian Epoch.*—The city of Susa seems to have disappeared entirely before the end of the Arsacide epoch or the beginning of the Sassanian Dynasty.

These main conclusions, about which there does not appear to be any possible doubt, must serve as guides in future excavations. Possibly later they will have to be modified, but they will remain substantially true.

Consequently, the Græco-Persian periods must be neglected so far as special researches are concerned, on account of their limited interest at Susa. Achemenid and Anzanite ruins are the only ones remaining to be considered, being the only ones to contain royal buildings, hence pages of history.

While the inspection of the Achemenid ruins would add little to history, of much greater importance would be the study of the Anzanite remains. In fact all that we know of this kingdom is of its decadence and fall; only a few centuries concerning which we have but very few documents, and they relate to the last moments of a powerful kingdom after lasting thousands of years.

What we may expect to find in the Susianian inscriptions are not the doings of a known king, or of a few names of unknown sovereigns that we



will add to historical lists, but whole dynasties whose records have vanished. It is the life of a nation for 3,000 years that we must attempt to reconstruct with the monuments that they have transmitted to us.

For the following reasons, hereafter I intend to concentrate my labors on the Elamite remains, those that have been found this year. The importance of the documents that they contain makes this an imperative duty, and during the next season, the excavations in the mound called "The Citadel," will be my main work.

During the past season I have been able to realize the conditions of labor at Susa. With 10 small railway cars, I have dug, within a month, a ditch 100 metres in length for the transportation of rubbish and 5 metres wide with a depth of 5 metres. The cube has been 2,500 metres and the surface cleared 500 square metres.

I have ordered for the next season a sufficient number of small cars to increase the number to 50 for transporting my material. Then it will be possible each month to remove 12,500 cubic metres of clearings, corresponding to a surface of 2,500 square metres.

Then in a six months campaign of excavation, as I figured 4 months for the clearings and 2 months for the more delicate work it can be seen that with the material at my disposal, it will be easy to clear 10,000 square metres or one hectare of the mound.

The total surface of the mound is less than 5 hectares and it will therefore take between 4 and 5 years (including the past season) to clear the whole of the hill down to the most recent Anzanite level.

I intend next year to open at the same time in the mound of the "Citadel" 5 trenches 100 metres long and 5 metres wide in order to clear the whole of the building discovered this year in Trenches No. 7 and No. 7a.

Following the argument that I have just made, it can be seen that with the material that I will have next year at my disposal, I can clear the mound down to the inferior level within 20 years. But this extensive work should only be attempted after sounding between each level. It is quite possible that the exploration of only one portion of the lower levels will be sufficient; for below the level where the oldest inscriptions occur, the interest becomes much less. In these conditions the whole mound would reveal all its secrets possibly within 10 years. As to the other portions of the ruins and mound in the vicinity of Susa, I cannot in any way foresee the time necessary for their exploration. They will be operated upon during the time of the excavations of the Anzanite Acropolis tested and cleared entirely if they deserve such an extensive labor.

## STONE EFFIGIES FROM THE SOUTHWEST

BY PROFESSOR WARREN K. MOOREHEAD, A.M.

THE famous "desert region" proper (southern Arizona and New Mexico), and particularly the southern portion of Arizona, abounds in certain effigies or ceremonials, or unknown objects which have as yet not been fully described by archæologists. There are many of these peculiar specimens which are not found elsewhere in the Southwest. Some of them occur in southern California, or Old Mexico. A few of the more simple forms have been discovered in the cliff-ruins to the north of the Gila, Salado, and Verde regions. Absolutely nothing is known regarding them, and I shall attempt no solution of the purpose of their manufacture.

They are of malpi, tufa or other volcanic and lava stones; seldom of granite. They are found about the ruins, along the old irrigating canals, or on the desert near no ruins. Some of them are readily recognized as being owls, Gila monsters, bears, lizards, turtles, wolves, etc. Others are rude, or manifestly made grotesquely, so that we cannot distinguish them.

The illustrations accompanying this paper show a peculiar class of stone effigies from the Salado Valley in Arizona. While most of them represent animals, several must be placed in the "unknown" category, for they are manifestly not effigies, idols, etc.

There is some discussion regarding these singular types, and I have recently observed one or two criticisms upon them in which the writers (who, by the way, do not append their names) are skeptical regarding the antiquity of a large portion of the Southwest idols, effigies, or whatever they are. That these critics are not familiar with the field is entirely probable. No person experienced in the excavation of the adobe ruins near Phoenix, Solomonville, or the Gila Valley generally, would say that these forms are all modern. The Pima Indians, near Tempe, have made and sold a number of idols and effigies. But such can easily be determined by a careful inspection after the specimens have been washed. If all of them are modern—made to sell—is it possible that the Pimas should have taken the trouble to bury these objects in graves, rooms, floors, etc., of the old ruins? And having done this, would they scatter the sand, debris, ashes and other accumulation common to the ruins over the caches?

If effigies are found under conditions apparently prehistoric, beneath undisturbed layers, how can the critics distinguish the modern from the ancient? And finally, why should they single out the effigies; why not include pottery, turquoise, obsidian, etc.?

I was in the Salado Valley from November, 1897, to June, 1898, and did a great deal of work in the ruins. I also bought objects from the Indians—objects found by them on the surface of the ruins in various directions out from Phoenix. The collection included everything found in the Southwest, from minute beads to large, heavy mortars and metates. These specimens did not differ greatly from those dug up by my men in the ruins themselves. We found numerous effigies, and procured many from the Indians. Some of the Indians brought in specimens that were unquestionably





FIGURE 1. SIZE 1-1



FIGURE 2. SIZE 1-2



FIGURE 4. SIZE 1-2

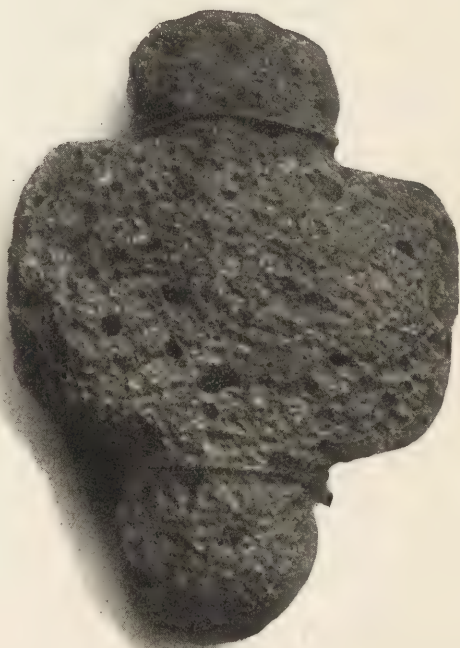


FIGURE 5. SIZE 1-2

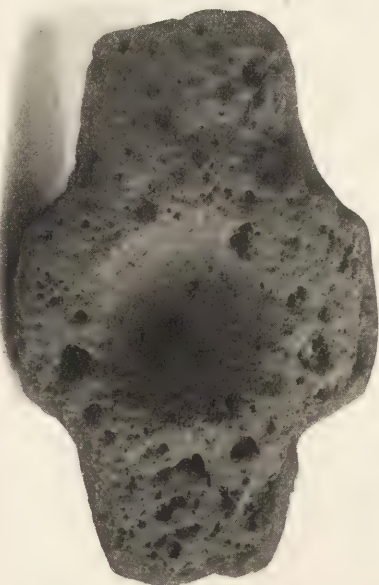


FIGURE 6. SIZE 1-2

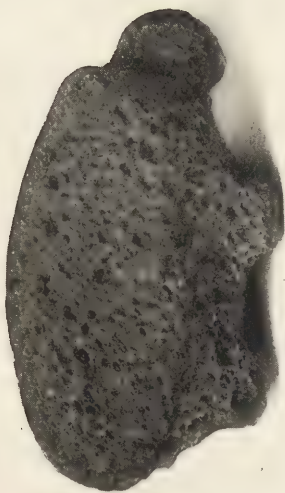


FIGURE 8. SIZE I-3



FIGURE 7. SIZE I-2



FIGURE 10. SIZE I-I



FIGURE 11. SIZE I-3



imitations of ancient forms. Others were grotesque figures cut out of the ordinary mano stones, small metates, etc. The bogus of these were cast aside, so far as we were able to determine them. But there may have remained a few clever imitations in my collection. That can be determined later. The point I wish to make is that effigies, idols, etc., *are* found in the ruins, and that he who says such are *not* found under strictly prehistoric conditions makes a statement which is untrue, and one that can be positively controverted in the field.

Figure 1 is one of the remarkable "effigy mortars," if I may coin such a term. Being roughly wrought from volcanic material, its outlines are not sufficiently clear for us to determine whether it represents a turtle or some other subject. Many of these "effigy mortars" are found. My party secured several when excavating about Mesa, and also south of the Salado, 4 miles from Phoenix.

Another effigy in lava is shown by Figure 2. It was found near Mesa, but on the surface and not in the ruin. Not a few effigies have been picked up along the old irrigating canals where there are no ruins, and only traces of temporary encampments or small village sites. It may be a bear. The resemblance is not distinct, although the workmanship is superior to Figure 1.

Figure 3 resembles very much the Armadillo. Mr. Tait of Phoenix has several of these in his collection. I secured two; one by find and the other by purchase. It is made of sandstone. The effigy, as in the case of all shown in this article—possibly excepting Figures 7 and 9, is unquestionably prehistoric. There are no marks of recent work and the cuttings appear to be patinated. It was found on the upper Salado.

Figure 4 is a grooved hammer of sandstone, and was found in ruins 3 miles west of Phoenix, covered with ashes, in a room on the ground floor of a pueblo. It has two grooves, a peculiarity not noted in Eastern types, and but few occur even in the Southwest.



FIGURE 3

Figure 5 is another curious object wrought from a mano stone and procured from the Pima Indians. It has the look of antiquity, yet it may be modern. I cannot tell positively.

Figure 6 is an odd-shaped affair, but it was not worked from a mano stone. It is over 2 inches thick, and made of very porous, coarse lava. It has a mortar-like depression in the center nearly 2 inches in diameter. For what purpose was it made? It was found in an old canal 5 miles south of Phoenix.

Figure 7 an owl effigy. The wings are barely indicated. The head is more carefully wrought. There are several owl effigies from the Southwest that evince considerable artistic ability, the wings being in relief. But more of them are similar to Figure 6, the head being abnormally short and the neck ignored. Made of lava and found near Mesa.

Perhaps Figure 8 is a turtle. The turtle, bear, lizard and owl were favorites, for we find more effigies of them than of any others. The legs of all effigies are very short, being barely indicated in many instances. The body is usually better worked than the head. It is made of lava, and found 4 miles east of Mesa, 18 miles from Phoenix.

The Gila monster is sometimes portrayed in the effigies. Usually the likeness is more apparent than Figure 9 indicates. But one is not far from correct in considering Figure 4 as representing a lizard. It is made of fine grained lava. It was found northwest of Tempe in the ruins.

Figure 10 is a perforated disc. They are very common, and range from 1 inch to 1 foot in diameter. Many theories have been advanced as to their use, but nothing definite is known. It is made of lava and found near Phoenix.

Figure 11 was originally a mano stone, some 9 inches long, 5 inches wide, and 1 inch thick. It has been cut into a grotesque form, and may not be ancient, although it has that appearance. It was bought of the Pima Indians near Mesa. The use of such an object is problematical.

None of the effigies, either animal or human, in degree of workmanship, equal the stone idols found in the Southern States east of the Mississippi. The tribes in the Southwest made superior pottery and were able to work turquoise, but their stone implements, taken as a whole, fall far short of that standard of excellence exhibited in the artifacts of the East.

The strange effigies of the Southwest certainly merit the serious study of Eastern archæologists. There are large numbers of ruins in the Salado Valley, and these contain no end of strange, "unknown" forms in stone and shell. The field is very broad and the few laborers seem to prefer the modern Zuni and Moqui to the more interesting prehistoric dwellers of the Salado Valley.



FIGURE 9. SIZE 1-3



## ANTHROPOLOGY AT THE MEETING OF THE AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE

SECTION H of the A. A. A. S., which is devoted to Anthropology, had an unusually large attendance at its meeting at Pittsburg from June 30 to July 3. This was partly due to this being the fifty-first meeting of the Association, and hence an important anniversary occasion. Between 30 and 40 papers were presented and discussed by the leading anthropologists of the country. The death of Dr. Thomas Wilson, Curator of Prehistoric Anthropology in the Smithsonian Institution, had, however, removed one of the ablest and, on account of his personal qualities, one of the most beloved of the members.

As was to be expected in the work of a Society of so long standing and of such minute specialization, nothing was brought before it of very startling general interest, but much was done in confirmation of former theories and in laying the foundation for future speculations. Mr. Warren K. Moorehead presented facts from burial places in mounds of glacial gravel in Ohio showing the different degrees of decomposition of the bones buried in these places and those buried in artificial mounds. Prof. C. H. Hitchcock, in describing a shellheap in Ormond, Fla., made it probable that the great auk, which is now limited to northern regions, formerly migrated as far south as the Gulf of Mexico. Mr. George A. Dorsey gave an account of mourning and war ceremonies among Indian tribes which may be of much service when compared with those in other parts of the world in establishing a common ancestry to tribes that are now far scattered. Mr. Boas pointed out that such ceremonies are "perhaps the most permanent activity of primitive man." Prof. G. F. Wright, besides giving an account of anthropological museums in Central Asia, read a paper showing that the extensive climatic changes in Central and Western Asia which are shown by geological considerations to have taken place in recent times, are perhaps correlated with the extensive movements of populations which from the earliest times have evidently started from that region. It is still the most probable theory that the Aryan languages had their origin in Bactria, whence Aryan-speaking people in prehistoric times migrated to India on the one side, and to Persia and Europe upon the other. This too was the probable center for the Mongolo-Tartar races, whose families are found to radiate hence to Malaysia and China on the one side, to Turkey, Hungary and Finland upon the other, and, spreading out over the vast wastes of Siberia, across into America, peopled the western continent. When we come to know the whole history of the great Tartar migrations it is likely that we shall find that the gradual desiccation of the country through the climatic changes had much to do with it all.

Prof. W. C. Mills gave an account of the burials in the Adena Mound, already described in the *RECORDS OF THE PAST*, and exhibited a human effigy pipe taken from the mound which is one of the most curious that has ever been discovered. From Mr. Walter Hough's report on explorations

in Arizona, it appeared that during the year 1901 sixty ruins had been visited, and 18 excavated, resulting in a collection of 3,000 specimens and the mapping of 24 pueblos. Mr. George H. Pepper showed that a throwing stick found in the Southwest was used by a prehistoric people who occupied a restricted area in Southeastern Utah and Northeastern Arizona. In form it is similar to one still used in Mexico. The officers of the Society elected for the coming year are, Vice-President, George A. Dorsey; Secretary, Roland B. Dixon.

## Notes

MR. W. J. SINCLAIR, of the University of California, is carefully studying the "gold bearing gravel of Tuolumne and Calveras Counties," where the famous Calveras skull was found. He is making explorations in the larger caves in this region, hoping to find further evidence of man's occupation of this country before the great lava flows took place.

SIGNOR BONI in following up the discovery of a prehistoric tomb in the Roman Forum has discovered two more tombs, which resemble the first one found and noted in RECORDS OF THE PAST for June. These tombs cannot be examined until a sewer which passes near the site has been diverted. As these tombs date from the VIII or IX centuries B.C. we shall await the completion of the excavation with great interest.

THE METALLURGICAL SKILL of the Ancient Chaldeans and Babylonians is shown by a statuette found in Chaldea, which is about 2200 years old. This statuette "was composed of nearly pure copper containing only a slight proportion of iron." A Chaldean statuette 400 years older than this was composed of "an alloy of 4 parts of copper with 1 part of lead and a trace of sulphur." In Babylon a statuette has been found which is composed of a copper alloy "containing 79.5 per cent of copper, 1.25 per cent of tin, and 0.8 per cent of iron."

WHAT WAS THE OLDEST VESSEL in active service in the world has just been broken up at Teneriffe, Canary Islands. This was an Italian ship the "Anita" of Genoa. It was a curious old vessel of the same type as Christopher Columbus' ship "Santa Maria." It was built in Genoa in 1548, and in March, 1902, made her last trip, which was from Naples to Teneriffe. She had a reputation for being not only a very staunch vessel, but also "the slowest ship afloat, taking 205 days on one voyage from Baltimore, Md., to Rio Janeiro."

BULLETIN 26 of the Bureau of American Ethnology, contains the translation of a number of myths and tales from the Kathlamet dialect by Mr. Franz Boas. These are of special historical importance because so far as Mr. Boas was able to ascertain there are but 3 persons speaking this Indian dialect at the present time, so that it would soon be entirely lost. These tales and myths were told him by Charles Cultee. The Kathlamet dialect is one that was spoken in the neighbor-



hood of Astoria, on the Columbia River, and Mount Rainier. Mr. Boas expects later to have printed a grammar and dictionary of this language "which will contain a comparison of all the known dialects of the Chinookan stock."

DR. MAX UHLE HAS BEEN EXCAVATING at Shell Mound, California, a prehistoric mound, which rises from a low alluvial plain to a height of 29 feet. The original base of this mound is 3 feet below ground, and 2 feet below the present high tide level. This makes it evident that the ground in the neighborhood has sunk at least 2 feet since the mound was started. He has obtained over 600 specimens, including many skeletons. He notes a change in the burial methods employed in the lower layers of the mound and those higher up. Also, a "curious increase in the number of bone implements of finer workmanship, not represented in the upper layers, was visible in the lowest layers."

AT SUSAN THE FRENCH explorers M. Pierre de Jecquer and M. Watlin, have profited by the attack, which the natives made on the explorers at Susa some time ago. Formerly all explorers in Persia were compelled by the Persian Government to examine their treasures where they were found, and not to move them from the country. This still holds in all parts of Persia, excepting Susa, where now in recompense for the molestation by the natives, the archaeologists are permitted to remove their finds to France. Recently at Susa, M. Pierre de Jecquer and M. Watlin, have unearthed "a large black marble column, covered from head to foot with cuneiform inscriptions, which should throw much light on the history of that ancient capital." This will be removed to France to be deciphered.

THE MEMBERS OF THE EGYPTIAN expedition from the university of California believe that their discoveries made this last winter demonstrate the fact that the "prehistoric Egyptians were the same in race as the Egyptians under the dynastic kings."

"On excavating a cemetery discovered in January, Dr. Reisner found that a lucky chance had led this prehistoric people to bury in a salty bit of ground, and that the bodies were mummified by the soil. Several bodies were found in an almost perfect state of preservation, and examples were unearthed besides of all the delicate external and internal human organs." Most of these bodies were in such fragile condition, however, that they had to be examined on the spot, although it is hoped that one of them may be successfully transported to California. Dr. G. Elliot-Smith of Cambridge, who is a professor in the Khedivial School of Medicine, and a thoroughly trained anatomist was granted two months leave of absence to examine and work up this material.

HARPER'S MAGAZINE for August has a clearly written article upon the "Primeval North-American," by Charles Hallock, M. A. Three of the 6 illustrations are, by permission, from the RECORDS OF THE PAST, including the map appearing in our first number. While the proof of Mr. Hallock's theories will seem to many far from satisfactory, the presentation of them will serve to clarify the atmosphere and to direct intelligent discussion. The closing paragraph gives a synoptical statement of his views:

The primeval peoples of both North and South America originated from a civilization of high degree which occupied the sub-equatorial belt some 10,000 years ago, while the glacial sheet was still on. Population spread northward as the ice receded. Routes of exodus diverging from the central point of departure are plainly marked by ruins and records. The subsequent settlements in Mexico, Arizona, New Mexico, Colorado, Utah, and California indicate the successive stages of advance, as well as the persistent struggle to maintain the ancient civilization against reversion and the catastrophes of nature. The varying architecture of the valleys, cliffs, and mesas is an intelligible expression of the exigencies which stimulated the builders. The gradual distribution of population over the higher latitudes in after years was supplemented by accretions from Europe and northern Asia centuries before the coming of Columbus. Wars and reprisals were the natural and inevitable results of a mixed and degenerating population with different dialects. The mounds which cover the

mid-continental areas, isolated and in groups, tell the story thereof. The Korean immigration of the year 544, historically cited, which led to the founding of the Mexican Empire in 1325, was but an incidental contribution to the growing population of North America. So also were the very much earlier migrations from Central America across the Gulf of Mexico.

DR. REISNER WITH 150 NATIVE diggers has been conducting a very successful series of excavations at Girga. These have been largely conducted in the ruins of houses of the XVIII dynasty. Among the interesting things found within these houses, many of which had gaily painted walls, were chessmen, bronze needles, leather thongs and doll babies. In one of the cemeteries he "found 3 groups of figures of household servants carrying water, making bread, laying bricks, keeping flies off food, and cooking,—in all 10 figures. This discovery was of peculiar interest from the fact that it was the first time for 15 or 20 years that such things had been found in position by Europeans."

In a funerary chamber around a man's coffin dating from the V dynasty, he found 19 wooden statuettes which "represented the dead man, his wife and his sons and daughters." The men were red skinned, the woman and girls yellow. The height of the figures of adults averaged 45 centimeters (17½ inches).

Among the other antiquities found at Girga were a coffin containing the mummy of a girl of the VI dynasty, at her feet a delicate wooden box containing a beautifully preserved net for the hair; two ships of the dead of the VI dynasty, fully manned, with a captain and 6 rowers, a helmsman, a coffin, a reading priest, and a wailing woman, and in the same niche in a rock tomb a smaller wooden statuette of the dead man; a bundle of linen garments of the IV dynasty; a very full collection of early XVIII dynasty pottery, comprising more than 400 pieces; 25 small pots of alabaster and blue marble; half a dozen bronze knives and razors; 30 scarabs; a girdle of 3 strands of beads,—white, black and green; a four-legged toilet box containing a stone pot; an alabaster pot, closed with mud, bearing a seal impression; an alabaster kohl pot; a rattle of baked clay in a little girl's grave, and a necklace of small gold circular beads.

SECOND INTERNATIONAL AMERICAN CONFERENCE.—The delegates from the different republics of America who assembled the first of this year in the city of Mexico, in the Second International American conference, drew up the following recommendation which it is hoped will bear some definite fruit.

The Second International American Conference recommends, to the Republics here represented, that an "American International Archaeological Commission" be formed, through the appointment, by the President of each of the American Republics, of one or more members of such commission; that each Government represented shall defray the expenses of its Commissioner or Commissioners; that such Commissioners shall be appointed for 5 years, and that they shall be subject to reappointment; that appropriations for the expenses incident to the prosecution of the work and the publications of the report of the Archaeological Commission shall be made by the respective Governments subscribing, on the same basis as that on which the Bureau of the American Republics is supported; that the first meeting for the organization of the Commission, the election of officers and adoption of rules shall occur in the city of Washington, District of Columbia, United States of America, within two years from this date; that the Accounting Department of the Commission shall be exercised by the Bureau of the American Republics; that this Commission shall meet at least once in each year; that the Commission shall have the power to appoint sub-commissions, which shall be charged specially with the explorations or other work committed to their care; that sub-commissions may be appointed which shall cause the clearing [excavation] and preservation of the ruins of the principal prehistoric cities, establishing at each of them a museum to contain objects of interest found in the locality, and at such exhumed cities to establish conveniences for the visiting public; that the Commission endeavor to establish an "American International Museum" which is to become the center of all the investigations and interpretations and that it be established in the city selected by the majority of the Republics acquiescing in this recommendation.

Committees shall also be appointed to clean [excavate] and conserve the ruins of ancient cities, establishing in each of them a museum to contain the antiquities that may be gathered, and which is to afford all possible accommodations to visitors.

The Archaeological Commission and the sub-committees it may appoint will be subject in all matters to the laws of the signatory countries.

Made and signed in the City of Mexico, on the 29th day of the month of January, one thousand nine hundred and two, in three copies, in Spanish, English and French, respectively, which shall be deposited in the Department of the Foreign Relations of the Government of the United States of Mexico, in order that the certified copies thereof be made to be forwarded through diplomatic agency to each of the signatory States.



THE DECORATIONS on a Megarean bowl found at Thebes, now in the British Museum, are described in the last *Journal of Hellenic Studies* [vol. xxii, Pt. I, 1902]. The subject of the design is a familiar one, The Rape of Proserpine, but has some new and interesting features. The two stages of the myth depicted are separated by a stelè, which has inscribed on it ΕΥΣΕΒΩΣ, indicating that it marks the "entrance to the abode of the blessed." On the right of the stelè is figured what took place on the earth. Here "is seen the chariot of Pluto approaching, preceded by Hermes and followed by the irate goddesses, Demeter, Athenè, Hecatè and Artemis." The scene to the left of the stelè is in Hades. Here a boy, standing among the reeds, is playing the pipes while beyond him to the left are "two of the Danaïdes with their pitchers." The pipe or flute player differs from the usual representation in this myth, in that he has two small horns on his head, showing that he must be "a young Pan" although dressed in ordinary clothes.

When Persephone arrived in Hades she was believed to have found meadows there as rich and flowery as those of Henna from which she had been so rudely carried off. These flowery meadows are made the most of on the vase. It does not appear, however, that the scene of the chase—two hares and two hounds—under the chariot of Pluto and therefore on earth, is continued in the meadows of the lower world. As compared with the two swans in the terrestrial scene we find only one in Elysium.

In connection with this representation of the exit from this world it is interesting to note that in Sicily "the exit was through a cave," while in one fragmentary vase design from Eleusis "the chariot of Pluto is seen plunging down into the earth, half lost to sight."

THE GONG AT DODONA.—Mr. Arthur B. Cook in a recent article on the Gong at Dodona discusses at length the evidence bearing on its form and "function." The fame of this gong has been handed down to us in the proverbs which were current 2200 years ago, in which talkative persons were compared to "the gong at Dodona." Menander (342-291 B. C.) refers to it in the following remark:

Give this creature Myrtille the merest touch or simply call *nurse*, and there's no end to her talking. To stop the gong at Dodona, which they say sounds all day if a passer-by lays a finger on it, would be an easier job than to stop her tongue; for it sounds all night as well.

In one of the most reliable descriptions of this gong, by Demon (about 308 B. C.) it is represented as consisting of a "ring of tripods or caldrons placed so closely together that, if one were knocked, the vibration would go echoing on round the whole series." On the other hand, Aristotle described it as having consisted of two columns "supporting respectively a caldron, and a boy grasping a whip whose bronze lashes, when swayed by the wind, struck the caldron and produced a reverberant sound." After a full presentation and discussion of the varying descriptions of this gong he concludes by saying:

To sum up. I have endeavored to prove that the gong at Dodona had two forms, an earlier and a later. At first it consisted in a series of resonant tripods arranged round the oracular shrine in such a way as to keep up a constant hum of bronze. Subsequently these tripods were replaced by a more elaborate gong—*alebes* and a *mastigophoros* of bronze, each standing on its own pedestal, and so placed that the wind would cause a continuous vibration. . . . In its original shape, the sound of the bronze that echoed round the sacred precinct served to scare away all evil influences. Later on its prophylactic virtues were intensified by the addition of the Corcyrean whip and safe-guarded by its elevation on a couple of columns.

HOMERIC SOCIETY.—Mr. Lester F. Ward in reviewing Mr. Keller's book entitled, *Homeric Society. A Sociological Study of the Iliad and Odyssey* in the *American Anthropologist*, sums up the social conditions of that time in the following words:

The Homeric Greeks rated themselves as an inferior race, and looked to the far East for culture and refinement. They were an advanced race only in a relative sense, when, for example, they compared themselves with the Cyclopes and Læstrygonians, who were reputed to be cannibals. The culture of the East was brought to Greece chiefly through the Phœnicians (Phæaciens), who were the traders of the world, and therefore despised, but upon whom the Greeks were wholly dependent for all civilizing elements. Most manufactured or artificial products were brought from the East by the Phœnicians, but the Greeks could

exchange for them fabrics, especially linen, papyrus-made articles, wines, oil, and certain prepared spices, incense, perfumes, dyes, drugs, etc., the raw materials for which came mainly from Egypt. Cattle were the chief staple, but cows were not milked. Sheep and swine were also common. Horses were used only for travel and in war, and in the latter case were never ridden, but always harnessed to war chariots. 'Fowls were kept as pets, eggs are not mentioned.' Early as is the potter's art everywhere, it seems to have been nearly unknown in Greece at that date, but baskets were woven. Counting and recounting were done on the fingers by the decimal system. . . .

There was no circulating medium, and the ox was the standard of value. Property was wholly insecure and every man must defend his own by force. Theft was honorable if successful, and murder for booty was legitimate, and to be avenged by the relatives of the murdered man. The author has logically classed marriage after property, for marriage was only a mode of transferring property in women. All women were property and most of them were slaves. . . . Skilled labor and all productive work was honorable, and the greatest men worked and boasted of it. But work for a wage was detestable, and the wage worker was far worse off than the slave. . . . Mercantile business was severely condemned as mean, and was left almost entirely to the Phœnicians who would penetrate the country and peddle their wares.

CYZICUS.--The ruins of this old city of Asia Minor have had but little attention paid them since 1836 when Marquardt published his work *Cyzicus und sein Gebiet*. There have been numerous travelers and archæologists who have visited the place but very little excavating has been done. Mr. Robert de Rustafjaell has recently presented a short account of his observations made during a somewhat extended visit to this old city whose granite walls and marble pillars have furnished material for Byzantine churches, Mussulman mosques and "the extensive arsenal at Constantinople."

Cyzicus, although now on a peninsula, was once on an island which Strabo described as being "500 stadia in circumference."

Of the earliest period of Cyzicene history, very few remains are now traceable above ground. The Cyclopean walls of Artace, where the Argonauts landed on their way to Colchis, are still standing 20 feet wide and in a fair state of preservation on a small peninsula, the modern St. Simeon; and in the immediate vicinity, to the north of Artace, is an ancient well which bears the local name of the "Well of the Argonauts." . . . Another site associated in legend with the Argonauts is Mount Dindymene, on the summit of which, 2430 feet above the sea level, they are said to have built a temple to the mother of the gods; ruins may still be traced here, but await investigation.

There have been a great many inscriptions found at Cyzicus but strange to say, "only a few can be assigned to a period before the Roman epoch, and none before the III century B. C." The city was continuously inhabited until 1063, when it was visited by an earthquake which not only destroyed the city, but cut off its fresh water supply and thus rendered its rebuilding useless. Now underbrush has grown over the ruins so that they are scarcely noticeable from a short distance away. Vandals have done most of the excavating. "A splendid sarcophagus of the Roman period was unearthed some 3 years ago" by a number of peasants who removed the contents, but left the sarcophagus with its lid partly removed, the whole being partly buried in the ground. The remains of one of the city gates is still intact and stands "20 feet high by 10 wide." The southern wall of the city was of granite and in places it still stands 30 feet high and 15 feet thick. An old Roman aqueduct which was built to bring water from the mainland now consists of a disconnected line of masonry, the earthquakes having ruined it in the XI century. Inside the city there are many evidences that there was once a very complete water system which threaded the streets.







FRONT VIEW OF TIMUR-LENG'S MAUSOLEUM, SAMARKAND



FRONT VIEW OF THE BIBI-KHANUM, SAMARKAND



# RECORDS <sup>OF</sup> THE PAST

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VOL. I



PART IX

## ANCIENT SAMARKAND

BY FREDERICK BENNETT WRIGHT

THE narrow belt of fertile irrigated land which lies between the desert region of Turkestan and the high mountains to the south has been the scene of innumerable conquests of nomad tribes who have roved back and forth over this country. Among these conquerors have been some of the most noted generals in history, and yet they have left us few monuments to testify to their achievements. The most important ruins to be found are those at Timur's ancient capital—Samarkand. Here, out of the one-story mud houses of the present Sart population rise a number of beautiful domes and magnificent buildings which give a faint idea of the former grandeur of the city;—a city whose wealth in 1400 A. D. dazzled and amazed the Spanish Ambassadors who were sent there.

The date of the founding of Samarkand is not known, but it was long before the Christian era. It was known as Maracanda, the capital of Sogdiana when conquered by Alexander the Great. "It was then a well-fortified city, surrounded with walls 10 miles in extent." Alexander made this his headquarters while subduing the Scythians and mountain tribes who "mysteriously appeared to resist his course from the unknown regions beyond." Later it was called Samar, but remained of comparatively little importance until 643 A. D., when the Moslem religion was introduced by the Arab conquerors and it began to grow in influence and power. Between the IX and XI centuries the Samanides had raised it to one of the largest cities of Asia and so protected it that it was spoken of as "The Asylum of Peace and Science." Some idea of its size can be gained from the fact that when Jenghis Khan attacked the city a force of 110,000 men was sent out to oppose him, but even this vast army was unable to withstand the attack of the unconquerable Mongol Prince. After this fall it became of secondary importance again until the XIV century when, under the rule of Timur-leng, or Timur the Tartar, it was raised to the first rank among Asiatic cities, which high position it held with somewhat waning glory until 1700, when it was so completely laid waste that, according to report, only one inhabitant remained.

Before taking up the description of the ruins of Samarkand, it may be well briefly to review the history preceding the time of Timur-leng, when the city reached its greatest magnificence.

In tracing the events which led up to the climax of Samarkand's importance we will have to turn,—not to some great city of Turkestan, Persia or the valley of the Euphrates, but to a small cluster of felt tents pitched on the banks of the Onon river 2500 miles, in a straight line, northeast of Samarkand. Here about the middle of the XII century, a son was born to the prince of a Mongol tribe living in these tents, and this boy, later known as Jenghis Khan, was the destined conqueror of all northern Asia;—a conqueror who made even the European Monarchs tremble on their thrones 4000 miles away.

According to the Chinese historians, Jenghis Khan was born in 1162, but according to the Persian historians he was born in 1155. When he was 13 years old his father died, and the Mongol tribe would have turned to another family for their prince had it not been for the energy and sagacity of his mother, who ruled as regent, and who, by her indomitable courage and diplomatic skill, succeeded in maintaining the unity of the tribe until Jenghis Khan reached the age of 17, when his marvelous career began. Unlike the great generals of Europe, he had none of the educational advantages which greatly assisted those conquerors. His college halls were the deserts and waste places of northern Mongolia, and his tutors the chiefs of the roving Mongol tribes.

Starting from his native land with a comparatively small army composed of nomad tribes, he swept with ever-increasing strength to the westward, following along the fertile valleys where he conquered everything on his way through Turkestan and to the borders of Europe itself. In 1221 his hordes had reached Samarkand, which was captured, pillaged and nearly destroyed. From here he advanced to the Caspian Sea and the Volga River.

After his death, under his son Ogotai, the Mongol hordes swarmed over the steppes of southern Russia, and pushed as far north as Ryazan, Moscow and Vladimir. At Ryazan the cruelties imposed on the conquered inhabitants were appalling. The ruling prince and his family as well as the inhabitants were slaughtered without regard to age or sex. "Some were impaled, some shot at with arrows for sport, some were flayed or had nails or splinters of wood driven under their nails. Priests were roasted alive and nuns and maidens ravished in the churches before their relatives. No eye remained open to weep for the dead." Still pressing westward the Mongol hordes captured Kiev and defeated the armies of Hungary and Poland. But just at this time the death of Ogotai checked the progress of the Mongols and saved western Europe.

On the death of Jenghis Khan he left the bulk of his empire to Ogotai, giving the rest of his sons large dependent appanages, by which arrangement the empire held together fairly well until after the death of Ogotai, when its disintegration became quite rapid. However, for centuries these disunited parts were ruled over individually by direct descendants of Jenghis Khan, who took the title of Khan, which title had great influence with the nomad tribes until long after the time of Timur-leng.

Such a great unwieldy empire lacking the means of communication could not last for any length of time, in fact its comparatively short duration



was surprisingly long when one considers the vast territory and the heterogeneous character of its parts.

In 1336, when the disintegration of the empire founded by Jenghis Khan was far advanced, the hero of Samarkand was born in a small town of Turkestan. In Timur's autobiography we have a very full account of the military life of the conqueror. From this autobiography we might judge that Timur-leng was a model of justice and equity. The text was originally in Turkish with much Arabic interspersed. The first translation was made by Abu-Talib-Hussyny, who presents the translation to the world in the following humble words: "The unworthy and sinful Abu-Talib-al-Hussyny, represents to those who stand at the foot of the royal throne, that during my residence in the two sacred cities of Mecca and Medina, I saw in the library of Jafer, governor of Yemen, a book in the *Turkey* language dictated by his Majesty who now dwells in Paradise, Timur Sahib Kerany, may God pardon him all his offences, in which are inserted all the occurrences of his life from 7 to 71 years, and in which he narrates the means by which he had subdued so many countries."

Starting with a small band of followers Timur-leng passed through all the vicissitudes of fortune incident to a nomad prince; sometimes with a following of 7, which in a few weeks might be augmented to 5,000 or 6,000 only again to be reduced to a mere handful. But he was always spurred on by some favorable sign found in the Koran. As a boy and a young man he would often fall into a trance which might last for days, and from which they had to arouse him by burning his hands. In these trances he was continually seeing visions of his future successes.

When making an attack on Seistan he was wounded in the left foot, which crippled him for life and gave him his familiar name Timur-leng, the Arabic for Timur-lame. The name Tamerlane, by which he is most widely known among English-speaking people, is a corruption of this.

In his autobiography he gives at some length 12 reasons for his success, of which the most important were, his sense of justice and obedience to the laws of Mahomet. He also notes that some of the requisites for success are "patience, perseverance and divine aid." His ideas of the duties of a ruling prince are summed up in the advice which he gave Tugleck Timur, whom he told that "Sovereignty is like a tent, the poles of which should be justice, the ropes equity and the pins philanthropy, in order that it may stand firm."

The erection of the enormous schools and colleges, whose ruins still make Samarkand famous, was in a large part due to the instructions which Timur-leng received from his peer and handed down to his successors. This teacher, whose remains rest in the Mausoleum beside those of Timur-leng, admonished him that, "In whatever palaces the learned have not free entrance there exists neither blessings, goodness, piety nor chastity."

At the age of 7 Timur had learned to copy the Arabic alphabet from a plank, and at the age of 9 he had begun his studies at the Mosque. He spent much time in organizing armies among his school mates whom he drew up in battle array and ordered around as he saw fit. The result was that at the age of 12 he felt very important and as he himself says he received his friends with "great hauteur and dignity." His favorite occupations at this time were reading the Koran, horseback riding, chess playing and as mentioned before maneuvering armies composed of his comrades.

When 16 years old his father turned over to him the monastery and village which he had erected in his own name. Early in life he married the daughter of Amyr Hussyn, an alliance which did not help him for his father-in-law proved to be his most treacherous enemy although continually posing as his best friend. At the age of 25 he conquered the tribes of Maveralnahr who were ruled over by Tugleck Timur Khan, a direct descendant of Jenghis Khan, and set himself up as a ruler, in the face of the precedent that none but a direct descendant of Jenghis Khan should be the prince of any Mongol Khan.

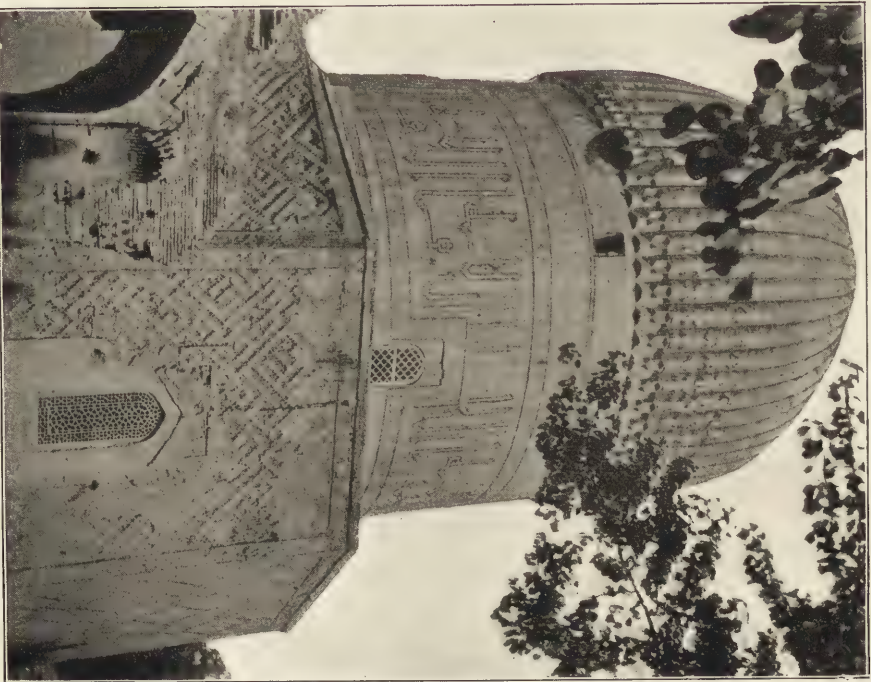
One example of the vicissitudes of his early fortune will give an idea of his personal history to the age of 30. At one time, when deserted by many of his early followers, he was captured by the Turkoman, Aly Beg, who confined him for 53 days in a room which had been used as a cow shed in which swarmed fleas and other vermin. Even in these quarters, however, he had visions that he was still to conquer the world. It had a good effect on him for during this imprisonment he says "I made a vow to God that I would never keep any person, whether guilty or innocent, for any length of time in prison or in chains." Becoming desperate in this place, he decided to risk everything on a rush for liberty. Suddenly surprising the guard, he wrested his sword from him and with this charged on the other guards, routing them all. When Aly Beg saw the large number of guards fleeing before the single man, he was so much pleased with his audacity that he released him and furnished him horses with which to continue his journey.

The year following this event when he was 29 years old his fortune had improved so that he had an army of 6,000 followers who defeated 30,000 Jets under the command of Beg Chuck. During the latter part of the same year (1363) he entered Samarkand, but did not make it his permanent capital until 1369. However, Timur-leng never spent much time in his capital. Practically all the remainder of his life was passed in a magnificent moving pavilion drawn by 22 oxen. This pavilion was of gorgeous appearance finished off with the best of materials which had been obtained as booty from the Oriental cities he conquered.

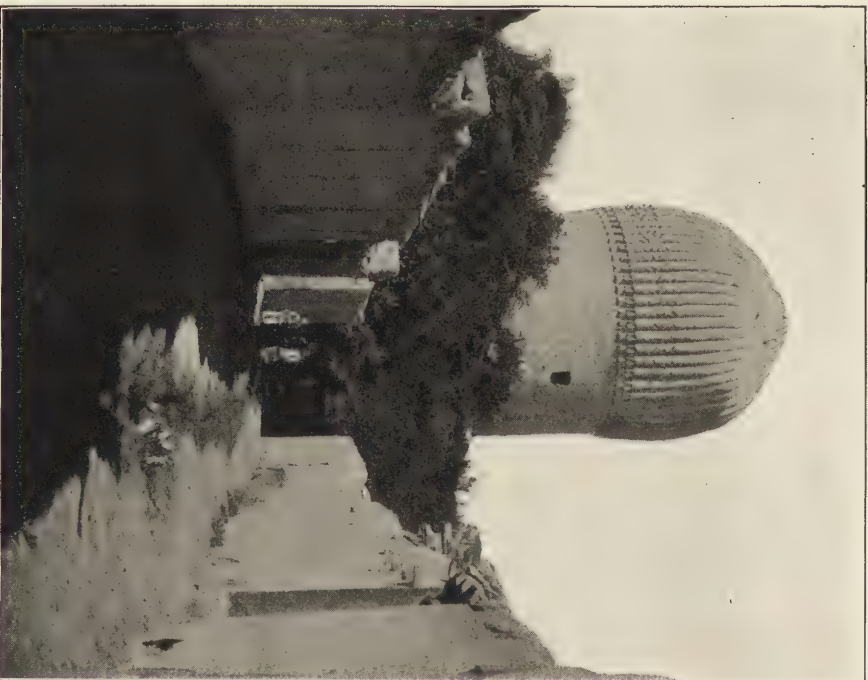
With Turkestan in subjection he marched his forces into Russia, captured Azof and Astrachan, and even made Moscow, which had only recently been freed from the Tartar yoke, tremble. In 1398 with 60,000 men he started across the mountains into India. Here, as in many other cases, his versatile ingenuity won the day for him. The sultan came against him with a large army, having as advance guards a great herd of elephants to whose tusks were fastened poisoned swords. On seeing this, Timur-leng put bundles of hay on his camels, set fire to the hay, and sent the camels to meet the elephants. The latter were stampeded by the fire, and in turn routed the whole Sultan's army. The conquest of India opened the way to an easy capture of the great cities in the Euphrates Valley, from which he obtained an enormous wealth of booty with which to adorn his capital, Samarkand.

From here he turned his attention to Syria and in 1402 conquered the great army of Bajaxet; the Ottoman Sultan, against whom the crusaders of Europe had marched in vain. He sacked Damascus, and carried away enormous riches to Samarkand.





NEAR VIEW OF THE DOME TO TIMUR-LENG'S MAUSOLEUM SHOW-  
ING THE GLAZED BRICK FIGURES. [Distorted on account of tilting  
the camera]



REAR VIEW OF THE DOME OF TIMUR-LENG'S MAUSOLEUM FROM  
ONE OF THE SART STREETS



FRONT VIEW OF THE SHIR-DAHR MEDRASS FROM THE RIGISTAN, SAMARKAND

Timur-leng was now 70 years old and without a rival in central Asia, but his restless spirit could not settle down to the monotony of peace. After two months' rest in his magnificent capital, he raised an enormous army and started in the autumn, for the conquest of China. But the weather was cold and on the way he was taken sick and died, so that the expedition was given up. Thus ended the career of a man whose military record may be summed up by saying that he had obtained the dominions of 27 kings so that his territory extended "from the Volga to the Persian Gulf and from Damascus to the Ganges."

Although most of his life was spent in active conquest, peace reigned in Samarkand, and the city prospered to such an extent that it became the second court and Mohammedan center of that time and the saying arose that Mecca is the "heart" but Samarkand the "head of Islam." An idea of the city and its great wealth is given in an account left by the Spanish ambassador, Ruy Gonzalez de Clavijo, who visited Samarkand shortly before Timur-leng's death. He said that they were amazed "at the mosques and terraced palaces, at the gardens rich as Paradise in which thousands upon thousands of pavilions, rosy, azure, snow white stood glittering in the sun, at the festal tables of pure gold, the goblets rough with rubies, the silver dishes which 3 men could hardly carry." He also speaks of a "golden table with a top of solid emerald\*\*\* overshadowed by a tree of which the leaves and branches were of pure gold, the fruits of single rubies, pearls and sapphires, and among the boughs of which sat golden birds expanding wings of gems."



Now this is all changed and to-day the Tartar section of Samarkand is a maze of narrow crooked streets lined with one-story mud houses, which, as in all Oriental countries, present blank walls towards the street but open into an inside court or garden. Out of this desolate waste of mud buildings rise the domes and towers which mark the past grandeur of the city. The magnificent court of the Rigistan which once marked the literary and business center of not only Samarkand, but the whole of central Asia, is desecrated by the booths of venders of all kind, while in the shadow of one of the large Medrasses, or colleges, on the south side of the Rigistan a long row of barbers ply their trade.

In striking contrast to this Tartar section of the city is the Russian section, with its wide avenues lined with tall poplar trees and graced with parks and fine church buildings. It was in 1868, that the Russians entered Samarkand and began their work of reviving the business and increasing the beauty of the city.

Among the benefits derived from the Russian occupation of Samarkand, is the effort which is being made to preserve what time and recent earthquakes have left of the magnificent buildings. A few years ago a severe earthquake destroyed several of the high towers and grand arches, and left the buildings in such a condition that they cannot long withstand the elements. Now that the Russian railroad from the Caspian Sea to Samarkand is in operation it is fairly easy to visit this interesting capital once "the queen of cities and mirror of the world." The Russian hotel accommodations although not sumptuous are very comfortable. That it



A CORNER WITHIN THE COURT OF THE SHIR-DAHR MEDRASS, SAMARKAND

is well worth visiting no one who has taken the trip will deny, and now is the time to visit the place before the disintegration has proceeded further.

The chief interest naturally is centered in the tomb of Timur-leng. Although his mausoleum is not built on as grand a scale as many of the other buildings in the city, yet its effect is one of the most satisfying and impressive to be seen anywhere. The architect was Abdullah of Ispahan, which is recorded in the following inscription, as deciphered by Vambéry, "the work of poor Abdullah, son of Mohammed, native of Ispahan." This architect was a Persian, but he had been largely influenced by Turkish architecture, so that his work resembles that rather than the Persian.

It is hard to obtain a general view of this marvelous mausoleum except at a distance, for the houses crowd up close to the small garden inclosure in which it is situated. Originally it consisted of a square chapel surmounted by a dome 162 feet high. The chapel had two wings from each of which rose a circular shaft or sort of pseudo-campanile. The recent earthquake destroyed one of these shafts and left the other in a precarious condition. The most effective position for viewing the tomb is from some of the side streets where the fluted dome of brilliantly enameled bricks rises out of a clump of trees which hide its base. The whole is composed of beautifully enameled bricks arranged in geometrical designs. Shades of blue and white predominate, but there are also red and green in the designs. The base is inscribed with large Arabic inscriptions.

The entrance to the sanctuary is through a "wooden gate, delicately carved and covered with ivory." Inside it is very dark and gloomy, there being very few windows. As Durrieux says, "The eye is lost, astonished, in the profound gloom of this magnificent dome." When accustomed to the darkness it appears that the room is square with recesses on each side. The whole is 36 feet on each side, the recesses being 6 feet. The walls are decorated with alabaster niches and arabesques, and are paneled with slabs of jasper. The pavement is also of jasper. A frieze runs around the room decorated with fine arabesques which are very effective against a blue background. Another form of decoration is composed of Arabic inscriptions some of which recall the history of Timur-leng while others give his favorite verses from the Koran.

In the very center beneath the dome is a jade block over 6 feet long,  $1\frac{1}{2}$  feet wide, and slightly over 1 foot thick, which marks the tomb of Timur-leng. Near it are two other cenotaphs bearing the name of Ulug Beg, a grandson of Timur-leng, and Said Mer Berke, his preceptor or teacher, from whom he had gained many of the ideas which contributed to his success. All of these are inclosed by an alabaster balustrade. The large slab of jade was sent as a gift to Timur-leng's successor Nadir-Shap in 1415 (10 years after the death of Timur-leng) by a Mongol Princess. In the transportation of this costly stone it was broken in two but was carefully cemented together before being put in place over the tomb. On it are engraved the names and titles of the sovereign and his ancestors, also a number of verses from the Koran.

Timur-leng knew enough of human nature to realize the danger of having his bones disturbed if they were interred in such a conspicuous place, so he built a subterranean vault in which he was buried. This vault could be visited only by a select few, while the immense slab with which his tomb was sealed could be raised, only by a still smaller number of





A VIEW OF MIZRA-ULUG-BEG MEDRASS, SAMARKAND



INNER COURT OF A MEDRASS OFF FROM THE RIGISTAN, SAMARKAND

avored individuals. Now, however, there is free access to this most sacred portion of the mausoleum which is dimly lighted by candles continually kept burning on dirty tallow be-dripped wooden candle sticks.

The present business center of the city is to be found in the former intellectual center—the great court of the Rigistan. This is a great square open on one side but surrounded on the other 3 by immense college buildings or Medrasses. Within this court the retail bartering is carried on while the wholesale cattle and wool market lies a short distance away. Of the buildings surrounding this public square, that of Mizra-Ulug-Beg is the oldest having been constructed shortly after the death of Timur-leng in 1420. This was specially renowned because of the mathematicians and astronomers who came from its college halls. Its founder, Ulug-Beg, grandson of Timur-leng, was specially interested in astronomy hence the remarkable development of this branch of science during his reign.

The remaining two buildings facing the Rigistan were not built until the first part of the XVII century, which period Durrieux calls the "Renaissance of Persian art." The Shir-Dahr Medrass was built in 1618, by the order of Yalangtach Bakadour, and is much more brilliant in its decoration than Mizra-Ulug-Beg. This, the largest of the schools, is so named because of the two lion, or possibly tiger heads, which decorate the top of the gateway. These heads are nearly effaced but still show their outline, and are perhaps one of the most remarkable pieces of work in connection with the Medrasses of Samarkand. As a rule the mussulmans do not use figures of men or animals for ornamenting their buildings, so that these are almost, if not, the only animal figures that have been found adorning ancient buildings in Turkestan.

From the Rigistan the Shir-Dahr makes an impressive appearance. The high arched recess from which the door proper opens into the interior court is finely decorated with enameled bricks of all colors, turquoise blue predominating. This recess is set in a massive square front with two short square columns rising on either side. Over the two wings of the building rise bulb-shaped corrugated domes, while at the extreme corners facing the Rigistan rise two pseudo-campanile columns. The whole is elaborately adorned with figures in colored bricks while around the base are numerous Arabic inscriptions. The high circular columns apparently inclining slightly toward the main building give a peculiar effect. Probably this inclination is entirely an optical illusion although several travelers have regarded it as an actual leaning of the columns. The court of this Medrass is surrounded by 64 rooms arranged in 3 stories. Each room has a single opening onto the court and was intended to accommodate two students, so the capacity of this school was 128 pupils. In the center of the court is a small building surrounded by trees. Most of the court, however, is paved, but much overgrown with grass and weeds. The other building opening on the Rigistan is Tillah-Kahir which was built about the same time as the Shir-Dahr. The general plan of this building is the same as that of the others on the Rigistan. It contains 56 rooms accommodating 112 students. The chapel of this Medrass is of special interest because of the beauty of its arched ceiling. However, most of this fine work is lost in obscurity on account of the darkness.

The Shir-Dahr and the Tillah-Kahir were built for the use of theological students and were at one time well supplied with funds for the support





TOMBS OF THE WIVES OF TIMUR-LENG, SAMARKAND  
[From *Asiatic Russia*, McClure, Phillips & Co.]

of the same. The Shir-Dahr still possesses lands which bring in an annual revenue of something like \$6,000, while the lands belonging to Mizra-Ulug-Beg bring in between \$600 and \$700 a year. This money is almost entirely used up by parasites who have attached themselves to these schools, and live comfortably without doing either work or study.

From the Rigistan a winding street, running to the northeast past a well kept bazar, and the cotton and the cattle market, leads to the great Bibi-Khanum a most magnificent Medrass erected by Timur-leng's favorite Chinese wife and made to accommodate 1,000 students. It originally consisted of a large quadrangular building, the court of which was paved with mosaic work. This quadrangular building connected 3 mosques two of whose domes have been destroyed by earthquakes, and the remaining one is very badly cracked. Although this was ruined to a greater extent than the Medrasses around the Rigistan its arches still are among the most impressive to be found in Samarkand. When Vambéry visited Samarkand, before the earthquakes had disturbed this building he was very much impressed by its architecture, in fact he considered it a model for that style. Besides these Medrasses there was another 5 miles to the southwest of the city, known as Khodja Akrrar and especially noted on account of the beautiful floral designs of enameled bricks with which it was embellished. Now, however, its courts are given up to wild flowers and weeds although sometimes crops have been raised there.

Just outside the wall of Samarkand, but yet near the Bibi-Khanum is Hazreti-Shah-Zindeh the summer palace of Timur-leng. This stands on a terrace which is approached by 40 marble steps. Near it is the tomb of Shah-Zindeh who was a companion of the Prophet and is still supposed to live in the mausoleum and is expected some day to rise for the defense of his religion. The fame of this tomb was very widespread as early as the XIV century.

There have been many vague accounts of a great library founded by Timur-leng containing an immense collection of Greek, Armenian and Persian books which he had gathered from all the lands he conquered. But Vambéry, the earliest of the European travelers to visit Samarkand, could find no trace of this library and it is generally believed that the stories concerning it are legends that have grown up, like many others, around the hero—Timur-leng.

East of the Bibi-Khanum lie the tombs of Timur-leng's wives and sisters. These consist of a series of domes rising from successive terraces to which you ascend by means of a marble stairway. The entrance to this street of tombs, which is somewhat below the present level of the ground, is constructed on the same general plan as the fronts of the Medrasses around the Rigistan. The exteriors of these tombs are very beautifully decorated with blue, green and pink designs, but their interiors, although equally beautifully decorated, are obscured by dust and dirt, for it is the home of numerous birds and bats which make it anything but attractive. After passing these series of tombs one comes out on a desolate hill, used as a burying place, from which a fine view of the harmoniously colored domes of the tombs can be obtained.

The citadel of the city was situated on a slight eminence in the western section and was one of the strongest in Turkestan. However, only one of the interesting ancient buildings remains here—the audience hall of Timur-



leng. This is a long narrow court surrounded by a colonnade within which is the Keuk-tash or Judgment Seat from which Timur-leng meted out judgment to his subjects, and which in later years was used for the same purpose by the Emirs of Bokhara. This Seat is a gray stone which is said to have been brought from Brussa, one of the ancient capitals of Bithynia situated about 60 miles south of Constantinople. As this stone lies within the present Russian fort, it requires considerable red tape to obtain permission to see it.

Around the city of Samarkand especially to the north and west there are numerous large heaps of bricks both plain and enameled, among which ruins numerous Græco-Bactrian coins have been found, and it is probable that further excavation would bring to light much of interest concerning the old Grecian occupation which extended beyond Turkestan to the south-east into Northern India.

Merve, Bokhara and other old cities of the Aral-Caspian region possess a few ruins dating from the time of Timur-leng's empire, but only in Samarkand are these great monuments concentrated. The influx of Russians to Turkestan, with their remarkable energy in the construction of museums for the preservation of local historical and archæological relics, will be of great service in saving what still remains of the past. But besides the imposing ruins of Samarkand, which would attract even the way-faring man, there are many mounds of much earlier date scattered over the country. These have been excavated to some extent but without important results. Later work, however, may reveal much concerning the early history of this beautiful irrigated garden spot which lies between the snow-capped peaks of the Alai Tagh and the desert mirage of the Kizil Kum.



LOOKING DOWN FROM THE HILL BACK OF THE TOMBS OF TIMUR-LENG'S WIVES



FRONT VIEW OF LANSING SKULL WITH THE THIGH BONES



SIDE VIEW OF LANSING SKULL WITH SINGLE THIGH BONE

[For these illustrations we are indebted to Prof. M. C. Long, Curator of the Public Museum, Kansas City, Mo.]



## THE FOSSIL MAN OF LANSING, KANSAS

BY WARREN UPHAM

LAST February, during the excavation of a tunnel in the Missouri valley loess, for use as a farm cellar, close to the house of Martin Concannon, near Lansing, Kansas, about 18 miles northwest of Kansas City, his son discovered a human skeleton at the base of the original and before undisturbed, horizontally stratified loess, which glacialists refer to the Iowan stage of the Glacial Period. The skeleton was imbedded in the upper foot of a stony and earthy débris that appears to have fallen from a closely adjacent outcrop of Carboniferous limestone, which also, in a heavy bed, forms the floor of the tunnel; or perhaps the bones lie in a slight hollow of the débris. Nearly all of the skeleton is represented by the bones found and preserved; but they were disjointed, and were partly broken and decayed. The skull was found entire, but was afterward accidentally broken, and its pieces have been fitted together very satisfactorily by Mr. M. C. Long, who has deposited it in the Public Museum at Kansas City, Mo., of which he is curator.

Above the débris, which has an average thickness of about  $2\frac{1}{2}$  feet, the upper  $\frac{2}{3}$  of the tunnel consisted of the loess, which also reaches up to the surface, 20 feet above where the skeleton lay. An irregularly eroded slope of the same loess, mainly enveloping the bedrock, continues upward and attains at the distance of  $\frac{1}{4}$  to  $\frac{1}{2}$  a mile the general height of about 200 feet above the Missouri, forming there the top of the river bluffs and the contiguous uplands. It was deposited during the Iowan stage of glaciation, having been swept from the ice-sheet by the waters of its melting and of rains, carried by the river floods, and gradually laid down in a very broad and deep flood plain along the valley, filling it across all the present wide bottomland area to the height of the present bluffs. Subsequently, when the supplies of water and of silt were diminished, the river re-excavated its valley, which in the vicinity of Lansing is from 2 to 4 miles wide. The skeleton was about 12 feet above the extreme high water of the Missouri river, which here rises 25 feet above its extreme low water, these respectively being 760 and 735 feet above the sea.

Examination of the tunnel and its vicinity, on August 9, by Prof. N. H. Winchell, president of the Geological Society of America, Profs. S. W. Williston and Erasmus Haworth, of the State University, Lawrence, Kansas, and Mr. M. C. Long and others from Kansas City, with the present writer, convinced us all that the skeleton was entombed at the bottom of the general loess deposit, when it began to fill this part of the Missouri Valley, and that as before noted, it belongs to the Iowan stage in the later part of the series of time divisions of the Ice Age. A detailed description of the discovery, of the section observed in the tunnel, and of the geologic features of this vicinity, is given in my paper on this subject in the September *American Geologist*, reporting the observations and conclusions of this party of scientists.



ENTRANCE TO TUNNEL IN WHICH THE FOSSIL MAN OF LANSING WAS FOUND

The very old Kansan glacial drift, including many boulders of the red Sioux quartzite, is thinly spread on this northeastern part of Kansas, under the loess, and reaches about 30 miles south of Lansing, terminating along an east to west boundary 12 to 15 miles south of the Kansas or Kaw river.

This discovery opportunely confirms and supplements the previously known evidences of man's presence on this continent during the Ice age, which had been well set forth by Prof. G. F. Wright in two important works, *The Ice Age in North America* (1889) and *Man and the Glacial Period* (1892). The observations there relied upon, as demonstrating that men here were contemporaneous with the northern glaciation, have since, however, been called into question and strenuously disputed by some of our ablest geologists and archæologists. The Late Glacial man of the Mississippi and Missouri region is now made known, and is seen by his bones to have been long-skulled, with beetling eyebrows, low and receding forehead, and projecting jaws. His stature, according to Prof. Williston, was about 5 feet and 8 inches, like the average of our people to-day.

Some of the stone implements of these primitive men have also been found, as noted by my paper before cited, in the loess at Muscatine and at Council Bluffs, Iowa. They indicate a stage of culture perhaps as far advanced as the Solutrian and Magdalenian stages of the Paleolithic period in Europe.

Accepting the computations and estimates of Winchell, Andrews and others, that the Postglacial period, since the ice-sheet finally melted off from the northern United States and southern Canada, has measured about 7,000 years, my studies of the glacial Lake Agassiz indicate for the time of departure of the ice along the whole extent of that vast lake only about 1,000 years, and probably for the recession of the ice border from the Iowan stage to the north end of Lake Agassiz about 5,000 years.



The Antiquity of the Lansing fossil man appears thus to be about 12,000 years, which I regard as no more than an eighth part of the whole duration of the Ice age, in its successive Albertan, Aftonian, Kansan, Helvetian (or Buchanan), Iowan and Wisconsin stages. This estimate of the age of the Lansing man, however, is to be taken merely as my matured opinion, based on a systematic study of the sequence of events constituting the Glacial period. It can scarcely be so little as 10,000 years, and may indeed, according to estimates by other glacialists for the date of the Iowan stage, have been even 20,000 years, or more. At the most, it can be only a small fraction of the antiquity of man in Europe, where he seems surely to have been coeval with the beginning of the Ice age.

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## HUMAN REMAINS BELOW THE LOESS OF KIEV, RUSSIA

BY PROFESSOR P. ARMASHEVSKY

**I**N connection with the excavation of the *Fossil Man of Lansing, Kansas*, it is interesting to note the somewhat similar location of human remains which were found some years ago below the loess at Kiev, Russia. The historically interesting city of Kiev, is situated on a high bluff 350 feet above the Dnieper. The exposure is kept fresh by the erosion of the river, and in this way the stone implements about to be considered were brought to light 53 feet below the top of the bluff. In 1900 the Assistant Editor of RECORDS OF THE PAST was shown this section by Prof. Armashevsky who is a teacher in the government school at Kiev, and who made the discovery. The following is a translation of his report which was prepared for the VII International Geological Congress, held at St. Petersburg in 1897. [Editor.]

The outcrops on the estate of Messrs. Ziwal and Bagréew are of special interest. In 1893 traces of man belonging to the most ancient Paleolithic age were found here. These estates are situated on Kirillovskaya street at the foot of an elevation on the bank of the Dnieper not far from the church of Iordan. The height here is cut by two deep ravines, between which stretches the narrow ridge of a hill which slopes down towards Kirillovskaya street. At the approaches to the street the width of the hill does not exceed 30 meters [nearly 100 feet] but in the direction of the Loukianovka it increases considerably. The examination of the outcrops in different parts of the hill \*\*\*shows that the general section of the locality is made up of Tertiary and Post-tertiary deposits.

The outcrop on Mr. Ziwal's estate actually presents, thanks to the great artificial trenches, a continuous vertical wall which shows in a very distinct manner the rocks following the Postglacial period.

- a.—Loess (about 10 m. [32 feet]).
- b.—Sandy stratified clay of a yellowish brown color (1½ m. [5 feet]).
- c.—Gray and greenish gray sand, partly argillaceous sometimes greenish, containing here and there gravel and small blocks of either local or northern rocks and a bed called "couche de culture humaine" (6 m.). [Bed of human culture (20 feet).]
- d.—At the base one sees here and there the appearance of clay with *Spondylus* which directly supports the Postglacial deposits.

On the opposite side of the hill, turning towards Mr. Bagréew's estate, we see the same series of rocks outcropping, with this difference that the greenish gray sands here enclose some concretions of rather compact gray sandstone. On Mr. Ziwal's estate, the same as on Mr. Bagréew's, there have been found, in the lower bed of the Postglacial deposits—gray sand, lying at a depth of from 14 to 16 meters [45 to 50 feet] below the surface of the soil—a number of objects testifying to the sojourn of man in this locality. They are principally instruments fashioned from pieces of flint, larger or smaller knives, scrapers and points with all the characteristic indications of the work of man's hand. The flints, called nuclei or cores, from which fragments have been detached so that the number of rough flints, evidently prepared to be used in working, have accumulated in heaps. The flint implements are often accompanied by a large quantity of mammoth bones, especially of their means of defense, their molar teeth, the bones of their fore- and hind-feet, apparently from at least 5 individuals. Several of these bones show distinct evidence of having been broken with the aid of sharp-edged instruments. At the same time a number of objects were found testifying to the use of fire, as a quantity of partly charred wood proves, some pieces of wood and half burned bones, as well as two blocks of granite which had been submitted to the action of fire. All these objects were found here in such abundance that the charcoal, small bones and fragments of flint formed two thin beds in the sand called the "bed of human culture"; they are as well shown on the round slope towards Mr. Ziwal's estate as on the opposite slope facing Mr. Bagréew's estate.

If one considers that, the implements of flint pieces were found here in connection with the nuclei from which they were detached, that these implements have perfectly preserved their edge, that, moreover, they are found in heaps of flint which have not been worked and all through which are mixed pieces of charcoal and mammoth bones often broken and burned, one will be convinced that the place where these human works were found was certainly a place of sojourn apparently very far back in the Paleolithic epoch.

In order to judge the antiquity of prehistoric human remains, found in this or similar localities, we have 3 remarkable indexes: the quality of the objects coming from the men's hands, the remains of animals accompanying these objects, the depth at which they have been found beneath the beds which cover them. On examining, from these 3 points of view, the objects found on Messrs. Ziwal's and Bagréew's estates, we recognize that they are typical objects of the Paleolithic epoch, detached with skill from very large pieces of flint. There is not found the slightest trace of polished stones, so characteristic of man's presence during the Neolithic epoch. The numerous mammoth bones by the side of the flint objects prove that the men who worked them, lived contemporaneous with the mammoth, which was at that time one of the principal resources for his food. Finally, on examining the antiquity of these works from the point of view of the depth at which they were found—evidently the safest and most incontestable argument—we see that all these objects are covered by a layer of 17 m. [55 ft.] thick, composed of loess, clay and sand, this latter is transformed here and there into sandstone. It is by comparing the depth of the bed of these objects with the situations of beds of similar objects in other parts of European Russia that one can best judge of their age. Up to the present





CLIFF OF LOESS AT KIEV, RUSSIA, FROM WHICH HUMAN IMPLEMENTS WERE TAKEN 55 FEET BELOW THE SURFACE

time 5 of these beds are known: 1, at the village of Gontsy, Loubny district, province of Poltawa; 2, at the village of Karatcharowo, Mourom district, province of Nijni-Novgorod; 3, at the village of Kostensk, province of Woronéj; 4, in the neighborhood of the village of Stoudénitsy, Podolie; 5, in the vicinity of Kamenets-Podolsk. The principal ones are those of Gontsy and Karatcharowo, also considered under the geological report. Heaps of objects shaped from fragments of flint have been found there by the side of charcoal and mammoth bones in a bed of loess, but at a depth of not over 4 feet.

After all that we have just said, on the situation of the bed containing these objects, we do not fear that we deceive ourselves by asserting that man must have appeared in the territory of Kiev at a time remote enough for the Postglacial epoch. It is probable that central Russia was then still covered by its mantle of ice and that southern Russia had a climate cold enough to be favorable to the existence of the mammoth, rhinoceros and musk-ox. In reflecting on this, one involuntarily asks at what precise

time man must have appeared in this country and how long must have been the prehistoric time of his existence. It is scarcely possible as yet to assert definitely on this point, but the following considerations may throw some light on the question.

They have found at Kiev as I have already said, the evidence of the presence of Neolithic man. Thus, for example, the grottoes near the brick-yards of Kirillovskaya street must have served as a stopping place for prehistoric man at that period, because there has been found a quantity of kitchen-waste, fishbones, and the remains of mammals which still exist to-day, shells of mollusks of the genera *Anodonta* and *Unio*, accompanied by vase fragments of rude workmanship and polished stone implements. Similar traces of man's presence in these places during the Neolithic epoch have been found in the vast subterranean caves which served as habitations, at the summit of the hill between Messrs. Ziwal's and Bagréew's estates, in which at a depth of 17 m. [55 feet], were found imbedded the objects described, left after the men of the Paleolithic epoch. The grottos near the Kirillovsky Hospital, like the subterranean huts, were excavated in the loess, consequently the men of the prehistoric period who appeared in the region of Kiev seem to have been there at the same time as the very distant Postglacial period, when the rocks of the loess stratum had already commenced to be deposited, and must have continued to exist there after the deposit of the loess. In this manner the duration of time necessitated by the deposition of nearly all the strata of the Postglacial period in the form of loess, clay and sand corresponds to the changes of climatic and physiographic conditions which have caused the disappearance of the great mammals of the mammoth period, and their replacement by a fauna scarcely different from that of to-day. The deposition of these rocks and such a remarkable change of the fauna certainly required a very long lapse of time, so that, if it is estimated, conforming to the opinion of Prof. W. Antonowitch, that the length of the historic period of the present man on the territory of Kiev is 2,000 years, we arrive at the conclusion that the prehistoric period of his existence in this place exceeds many times that length of time.

In any case it is certain that Kiev can be justly considered as one of the places in the vast territory of European Russia where man has lived from the earliest time.

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### AN EGYPTIAN IDEA OF HEAVEN

BY ISAAC MYER

THE following is a description of the entrance into the Egyptian heaven of King Pepi I, also named Mery-Ra, third king of the VI Dynasty [*circa* 3467-3447 B. C.]. His Pyramid, called Men'-nefer, was entered by Prof. G. Maspero at Saqqarah in 1880. It is the same type as those of Unas, last king of the V. Dynasty, and of Teta, first King of the VI Dynasty, except that the eastern chamber is one room, and is not divided into a large cross passage and 3 small chambers at its side.

It was in the reign of this king that Una lived, in whose tomb at Abydos, was found the first Egyptian historic description.



The following inscription was found, among many others, incised on one of the walls of the chamber in which was the sarcophagus of the king. It is very important from its giving to us the idea of heaven as it existed in Egypt about 5,400 years ago:

"Hail, Osiris Pepi! Thou hast come and thou art radiant; thou rulest like the god who is seated upon his throne, who is called Osiris; thy soul is with thee in thy body, thy form of strength is with thee, behind thee, thy crown is upon thy head, thy head-dress is upon thy shoulders, thy face is before thee, and those who sing songs of adoration are upon both sides of thee; the followers in the train of a god are behind thee, and the divine forms who cause the god to come, are upon each side of thee, the god cometh, this Pepi hath come upon the throne of Osiris. The Shining One cometh who dwelleth in *Netat*, the Master who dwelleth in *Tini* (Thinis), and Isis speaks upon thee, Nephthys holdeth converse with thee, and the Shining Ones come up to thee, bowing down even to the ground, in adoration at thy feet, *by reason of the power of the writing which thou hast*, O Pepi, in the region of *Sa* (*Sabu*?).<sup>1</sup> Thou goest forth to thy mother Nut (i. e., the sky) and strengthen thy arm, and she maketh a way for thee through the road to the sky<sup>2</sup> to the place where Ra (the Sun-deity) abideth. Thou hast then opened the two gates of heaven, thou hast opened the two doors of *Quobhu* (i. e., the celestial deep); thou hast there found Ra and he watcheth over thee, he hath taken thee by thy hand, he hath guided thee into two temples of heaven, and he hath placed thee upon the throne of Osiris. Then hail, O Pepi, for the Eye of Horus cometh to hold converse with thee,<sup>3</sup> thy soul which liveth among the Shining Ones cometh unto thee. As a son defending his father, and as Horus avenges Osiris, even so Horus will defend Pepi against his enemies (i. e., the injurious demons). And thou standest, O Pepi, avenged, equipped in all things like unto a god, and supplied with all the forms of Osiris upon the throne of Khent-Amenta. Thou doest that, which he doeth among the immortal Shining Ones, and thy soul sitteth upon its throne being provided with the form, and it doeth whatever thou doest in the presence of Him who liveth among the living, by the command of Ra, the great god. It reapeth the wheat, it cutteth the barley, and it giveth it unto thee. O Pepi, he who hath given unto thee all life, and all energy and eternity and thy power of speech and thy body, is Ra, and thou hast taken the forms of a god, and thou hast become great because of that, near the gods who dwelleth among the living, and *it is the powerful magic of the writing which thou hast, thou striketh terror into their hearts*. Thy name shall live upon the earth, thy name shall endure for ages upon earth, thou wilt not perish, thou shalt never be annihilated."<sup>4</sup>

It is to be noted, that the dead were identified with Osiris certainly as early as the V Dynasty [*circa* 3998-3721 B. C.]. It is also to be noted that Osiris is especially king and deity of the dead and friend of mankind,

<sup>1</sup>The *Sabu* was the spiritual body, "the region of the *Sabu*" would be therefore the place in which the spiritual bodies lived.

<sup>2</sup>Road of the Sky. This likely refers to the Milky Way, which cuts the ecliptic, at the summer and winter solstices.

<sup>3</sup>This refers likely to the deity of day, or of the sun, the *Utebat*, or *Litiu*, or *Uzatti*, the Eyes of Horus, were *inter alia*, the Sun and the Moon; the former, the right eye; the latter, the left eye.

<sup>4</sup>*Les Inscriptions des Pyramides de Saqqarah*, par G. Maspero, etc., Paris, 1894, pp. 149-151. *Recueil de Travaux*, etc., by the same, Vol. V, ap. 159, II, 1-21.

giving them eternal life, and as such, was considered as the "Good being," and after having been murdered by Set or Typhon, the Wicked Demon, Osiris arose from the dead with a perfect body, and thereafter lived forever without any decay or corruption.<sup>1</sup> Osiris is, "Governor of those who are in the Netherworld, who makest mortals *to be born again*, who renewest thy youth," etc. [*Book of the Dead*, Chapter CLXXXII.]

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### ASIATIC RUSSIA<sup>2</sup>

THESE important volumes give in most interesting form a comprehensive survey of the vast region controlled by Russia outside of Europe. No aspect of nature or of life has been neglected. Students in most diverse fields will find gathered here for their use abundance of suggestive material. The author is well known for his keen and comprehensive observation, his power of vital interpretation, and his clearness of literary expression. There is space here to speak only of some of the contributions of *Asiatic Russia* to our knowledge of antiquity.

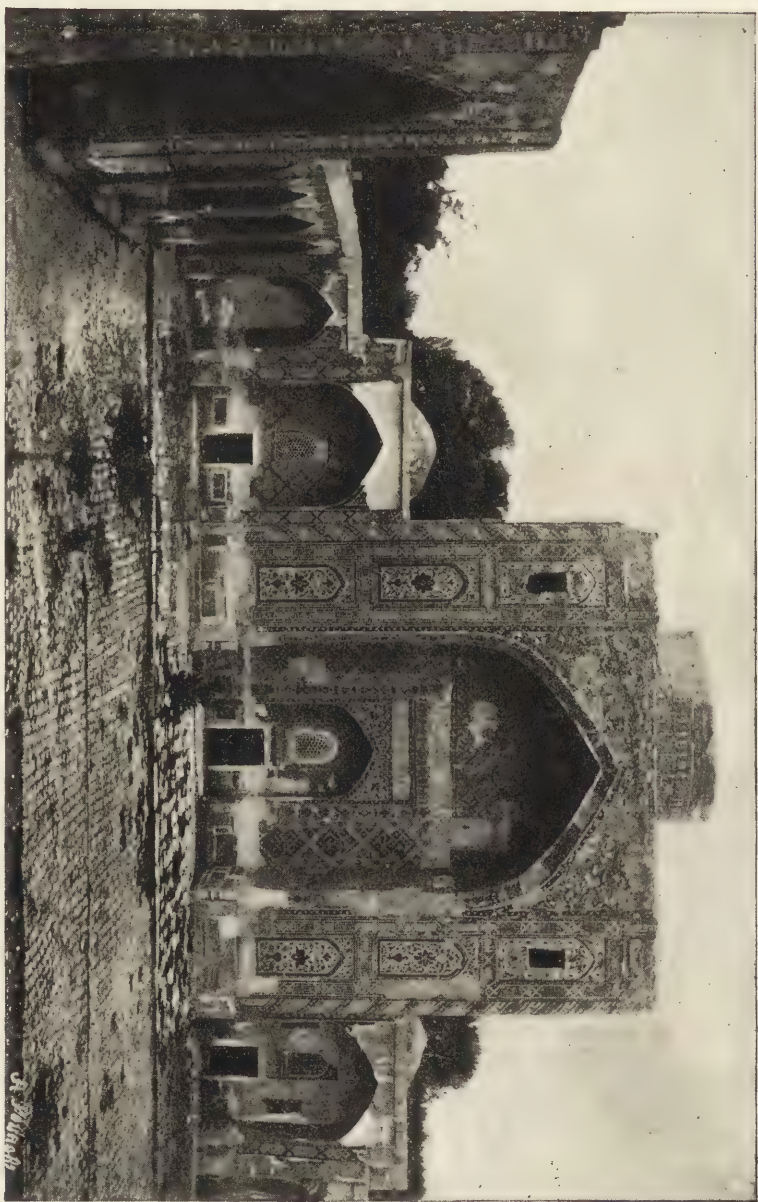
The movement of Russia into Asia is in fact a return of one branch of the Aryan race towards its original habitat. At many points it is lifting the clouds of oblivion that had settled for generations over regions that were once centers of most active life. Ancient Colchis and the valleys of the Oxus and the Jaxartes are again becoming open to the knowledge of Europe, more open than they had been since the days of classic Greek and Roman writers. One gratifying result of the better knowledge thus coming to our generation is to raise our estimate of the credibility of the early records. It was once easy to say that Pliny must have been an extravagant exaggerator to say that a merchant needed more than a hundred interpreters if he would trade in Colchis. Present day experience in Trans-Caucasia makes Pliny's statement seem very simple matter of fact [p. 272]. How incredible a legend seemed the story of Herodotus that Alexander, digging a well near the Caspian Sea found oil instead of water! This can no longer be counted against the ancient historian's accuracy in view of the petroleum about Baku [p. 448]. The influence of such confirmations of the old writers can but be most beneficial upon the spirit of research in this too skeptical age.

Great results in the form of new knowledge may be expected when there has been sufficient time for thorough exploration of the ancient seats of activity now under Russian rule in Turkestan. The transient splendors of Samarkand in the days of Tamerlane, which already loom with fascination through the breaking mist [p. 371], will be brought clearly before our vision. We shall uncover no one yet knows how many successive layers of ancient civilization in Merv, Balkh, Tashkent and the Pamir.

<sup>1</sup>See especially as to this, Chapter CLIV, of the *Per-em-bru*, the so-called, *Book of the Dead*. In this, the deceased announces his belief in the resurrection of the spiritual body and the life eternal, based upon the assumption that Osiris died, arose again, and lived in a perfect body, and lived thereafter, in eternity, and prays Osiris that he be like him.

<sup>2</sup>*Asiatic Russia*, by George Frederick Wright, LL.D., F.G.S.A. With 10 maps and 83 illustrations. In two volumes. 8vo. Pp. xxii, 290 and xii, 340. New York: McClure, Phillips & Co., 1902.





VIEW OF MEDRASS FROM THE RIGISTAN  
[From *Asiatic Russia*, McClure, Phillips & Co.]

In Siberia the upper valley of the Yenisei is especially rich in pre-historic mounds whose contents have already yielded abundant material for tracing the progress of the human race from stone implements through bronze to iron. Russian scholars are showing an interest and thoroughness in collecting and classifying these remains scarcely surpassed by their confrères in more western lands. The museums at Yeniseisk, Krasnoyarsk and especially Minusinsk now draw scholars from other lands who wish to complete their knowledge in this field [pp. 253, 402. Also see RECORDS OF THE PAST for January, 1902, pp. 7 to 13]. At Irkutsk near Lake Baikal are gathered implements from the burial mounds of still ruder people who could work stone, bone and ivory but had neither bronze nor iron. Human remains are also found in numerous places mingled with the bones of animals now extinct. Thus Siberia testifies, as the finds of the Somme Valley had long ago witnessed, that man's tenacity of life far excels that of some of the largest animals he found upon the earth.

Of great significance is the finding of human remains in marine terraces that are now in some places 1,000 feet above the level of the sea. Here is a geologic basis for such destruction of human life by water as is reported in the early narratives of nearly all the tribes in the world.

Thus the extending system of Russian railways is not only contributing to the order, unity and prosperity of that great empire but is putting historical science under obligation by opening to travel regions that had been almost inaccessible. It is impossible in a brief review to speak adequately of the value of the volumes we are noticing. It is rare to find so successful a combination of brevity, thoroughness and interest. The publishers have given the work attractive form with heavy paper and generous margins. The numerous illustrations illuminate the text and are nearly



RUSSIAN STREET AND CHURCH IN TASHKENT



all from original photographs. The index is a full guide to the encyclopedic array of information. The volumes cannot fail to increase greatly interest in Russia and in the ancient regions over which her rule now extends.



KURGHIZ TARTAR FELT TENTS

## Notes

A VIKING TOMB has recently been discovered which contains a skeleton of a woman, a complete set of arms and the skeleton of a horse. From this it appears evident that the woman was a warrior, which is in accord with statements made by old Norse sages who "speak of women warriors."

PICTOGRAPHS NEAR DORDOGNE.—The last number of the *American Antiquarian* gives the following quotation from *La Nature*, published in Paris:

A picture gallery in a cave passage 300 feet in length, containing carefully drawn and well preserved rock engravings of animals, including the mammoth, has been found near Dordogne, in France. There were 109 figures in good condition; rendered with extreme care that will allow a separate study, for many points in detail, the evident work of artists, reproducing with fidelity and technical skill, the animals which they saw.

TREPHINING.—In the notes of the June number of RECORDS OF THE PAST we quoted at length from a paper published in the *Journal of the Anthropological Institute of Great Britain and Ireland*, on *Trephining in the South Seas*. Professor Charles W. Dulles, Lecturer on the History of Medicine, in the University of Pennsylvania, takes exception to the statements there recorded. We hope later to have an article from him on this subject. The following is an extract from his letter to us:

"Your readers who are not surgeons have a right to know—surgeons will not need to be told—that the note published in your issue for June, 1902, page 187, does not anywhere describe an operation of 'trephining,' but uses this term

erroneously in every instance where the text describes what was actually done. Those who have investigated the subject of prehistoric medicine more than casually know how difficult it is to be sure of the inferences to be drawn from the few data obtainable."

IN A LECTURE on the *Significance of Assyriological Research for Religion* delivered by Dr. Frederick Delitzsch before the Emperor of Germany, which has been translated and published in the *Open Court*, interesting light is thrown on some of the Bible passages by comparison with the Babylonian cuneiform inscriptions. Dr. Delitzsch takes the passage in Numbers vi: 24-27: "The Lord bless thee, and keep thee. The Lord make His face to shine upon thee: The Lord lift up His countenance and give thee peace," and says concerning it:

Countless times has this blessing been given and received! But it was never understood in its full depth and import until Babylonian usage informed us that "to lift up one's countenance or eyes upon or to another's," was a form of speech for "bestowing one's love upon another, for gazing lovingly and feelingly upon another, as a bridegroom upon a bride, or a father upon a son." This ancient and glorious benediction, therefore, invokes on man with increasing emphasis God's blessing and protection, God's benignant and gracious consideration, and lastly God's own love,—finally to break forth into that truly beautiful greeting of the Orient, "Peace be with thee!"

EXCAVATIONS AT ANTINOE.—Mr. M. A. Gayet since 1896 has been working on the excavation of that celebrated city Antinoe. This city was founded by Hadrian in 140 A.D. to commemorate the devotion of Antinous, who sacrificed his life because the oracle had declared that the "emperor would die if his most cherished friend did not sacrifice his life by offering himself as a victim in the place of the emperor." During a voyage on the Nile Antinous threw himself into the river and at this point the superb city of Antinoe was erected as a monument to his devotion, in fact he was deified like Osiris and honored in plays at the circus, the theater and olympiads.

During the IV century A.D. the city was either destroyed or deserted, it is impossible to tell which. However, Mr. Gayet has found traces of fire in many parts of the ruins which leads him to favor the hypothesis that "some madly orthodox person delivered the city to the flames in revenge for the sufferings of the neophytes or in order to destroy the god and temples of Paganism."

In a recent number of *Public Opinion* the following condensed extract from Mr. Gayet's report on the results of his excavations appeared:

In January, 1896, I undertook preliminary soundings in the mass of rubbish which marked the situation of the Hadrian city and since then have steadily pursued the work, until to-day the dead city is disclosed as clearly as if it rose before us in a mirage. Thanks to the soundings, its *ensemble* has been reproduced with its Egyptian and Greco-Roman temples, its avenues bordered with porticos, its arch of triumph surrounded by gateways, its baths, its fish ponds, its still intact hydraulic machines, its circus where the Olympic games were given, its theater, its square where lay the votive columns and the overturned basins, and lastly the houses of the city so carefully preserved under the sand that it is possible to visit each story by mounting the stairs erected centuries ago. In one place we find the quarter of the glass-makers with the partly demolished furnaces, lumps of slag, blocks of gravel in fusion, and pieces of waste deformed by the cooking and thrown in a pile on the rubbish. In another part of the city we see the quarter of the jewelers, the crucible still containing a few particles of gold, and lastly we come to the patrician quarters which are covered by hills of sand, 25 meters in height; these palaces, because of the work involved, I have not been able to excavate. Now that the dead are raised from their sepulchers, this sleeping desert becomes suddenly animated and as the ruins grow clear, civilization is resuscitated with all the perfect minuteness of its former refinement.

ARCHÆOLOGICAL DISCOVERIES IN MEXICO CITY.—Mr. Thomas R. Dawley, Jr., in the *Scientific American* for August 23, gives an account of the discoveries made in Mexico City last winter, from which the following facts are taken: While renovating one of the old palaces the workmen struck a flight of stone steps. Captain Diaz, son of President Diaz, took an interest in this and had the place carefully excavated. Numerous pieces of sculpture were found, among them a tiger or ocelot which weighs 4 tons, 2.3 meters long, a little over



1 meter wide and slightly less than a meter high, a small stone idol near which was a quantity of incense gum, a number of stone skulls carved as if in imitation of death masks, beside numerous other relics which will be preserved in the Mexican National Museum.

The old level of the city was found to be 13 feet below its present level, and other facts brought to light which indicate something of the city's history after its destruction by the Spaniards. Mr. Dawley says:

We know that when Cortez first saw the Aztec city, he compared it to Venice on account of its being composed of islands, and having canals for its streets. With the destruction of the city, the temples and the public edifices were toppled over, filling up the canals. It would seem that the Spaniards would have taken this material to build their new city, but it is evident that they did not. In building the new city they brought building material from elsewhere and built on top of the old.

Another fact demonstrated by the discovery of the temple is that the reconstruction of the city began in a very feeble manner, for the stumps of the trees growing at the base of the steps show that the ruins of the temple must have remained just as the Spaniards destroyed it a long time, thus giving the two trees ample time to sprout between the crevices and grow before they were eventually buried by the debris, upon which the palace of the Acevedos was built, more than a century, or a century and a half later.

The great cathedral was not commenced till a century after the destruction of the city by Cortez, and like the palace of the Acevedos, it must have been built upon the ruins of the Great Teocalli. We can therefore conceive Tenochtitlan a ruined city for upwards of a century, with its demoralized remnants of a once proud race wandering about the ruins till finally the site was accepted for the Capital and the reconstruction commenced in earnest. The value and quantity of relics which are buried beneath these structures can only be conjectured.

CRETE.—The results of the recent work of Mr. A. J. Evans in Crete are summarized in a recent issue of *Nature*. Mr. Evans found that, in order to protect the Throne Room, which had been excavated during previous seasons, it would be necessary to build a house over the whole. How successfully this has been done and what special points of interest have been brought to light by the excavations will be seen from the following quotation from *Nature*:

"In order to support the roof it was necessary to place some kind of pillars in the position formerly occupied by the Mycenaean columns, the burnt remains of which were found fixed in the sockets of the stone bench opposite the throne."

Accordingly pillars of Mycenaean designs were erected, and the whole roofed over. This necessary work of conservation is analogous to that at Dêr el-Bâheri; no attempt at "restoration," as it is understood on the Continent, has been made. All who have seen the result can testify that it is entirely successful.

One of the chief results of the excavation is the inkling it gives to the great extent of the palace, which seems, in fact, to have not only covered the whole of the knoll on which it stands, but to have descended in a series of several-storied hills and towers down the eastern side of the hill to the bank of the stream which runs below. And now that Mr. Evans has announced the discovery at Knossos this year of contemporary representations of Mycenaean houses we may perhaps be able soon to acquire some idea of what the palace may have looked like when seen from the opposite eastern downs or from the way leading up from the sea. . . . On the left is seen one of the great sensational of Knossian discoveries, the quadruple staircase which descended from the Central Court of the Hall of the Colonnades, a hall which reminds one more of a court with *loggie* in an Italian palace than anything else! And at the point of the staircase the palace was certainly 3 and probably 4 stories high; in fact, 3 flights of steps still remain. Originally the staircase "consisted of 52 stone steps, of which 38, and the indication of 5 more, are preserved." The excavation of the lowest flight "was of extraordinary difficulty, owing to the constant danger of bringing down the staircase above. It was altogether miners' work, necessitating a constant succession of wooden arches."

Mr. Evans is of the opinion that "the whole result of the most recent excavations has been more and more to bring out the fact that, vast as the area it embraces, the Palace of Knossos was originally devised on a single comprehensive plan. The ground scheme of a square building, with a central court approached at right angles by 4 main avenues, dividing the surrounding buildings into 4 quarters, is a small conception which, as we now know, long before the days of the later Roman *Castra*, was carried out in the *Terremare* of Northern Italy. . . . The Minoan architect made claim to the credit of adapting the same root idea to an organic whole, and fitting it into a complicated arrangement of halls, chambers, galleries and magazines, forming parts of a single building."

Further confirmation of the generally accepted date for the earlier parts of the palace, c. 1700 B.C. and later, was found in 1901 by the discovery in the "early Palace stratum," a deposit "containing a large proportion of charcoal, but representing the burnt remains of an earlier structure," and situated "immediately under the Mycenaean wall-foundations, at a depth of 40 centimeters below the later floor-level," of "the lid of an Egyptian alabastron, upon the upper face of which was finely engraved the cartouche containing the name and divine titles of the Hyksos King Khyan," who reigned somewhere about 1800 to 1700 B.C. The style of the hieroglyphs and phraseology of the inscription show us that this object is contemporary with the king whose name it bears. Therefore the discovery of this object of c. 1800-1700 B.C. may be taken to confirm the weaker evidence of the XIII dynasty statuette of Abnub, son of Sebek-user (date c. 2000 B.C.), which was discovered in the course of the excavations of 1900, and with this to indicate roughly the date of the beginnings of the great Palace to Knossos, which is undoubtedly, as its excavators maintain, the veritable Labyrinth of Minos.

The store of Knossian inscribed tablets has been largely increased during the course of the excavations; it is much to be regretted that the Cretan Assembly seems unable to see its way to allow any of these tablets to leave Crete for the purpose of study and possibly interpretation.

Our knowledge of Mycenaean life has been increased in a rather startling way by the discovery of a fresco-painting depicting, side by side with the well-known "cowboys" of the common Mycenaean scenes of *female* toreadors in the act of tackling infuriated bulls. Mr. Evans remarks that:—

"The episode is sensational in the highest degree, and we have here nothing of the mere catching of bulls, wild or otherwise, as seen on the Vaphio Cups. The graceful forms and the elegant attire of these female performers would be quite out of place in rock-set glens or woodland glades. They belong to the arena, and afford the clearest evidence that the lords of Mycenaean Knossos glutted their eyes with shows in which maidens as well as youths were trained to grapple with what was then regarded as the king of animals. The sports of the amphitheater, which have never lost their hold on the Mediterranean world, may thus, in Crete at least, be traced back to prehistoric times. It may well be that long before the days when enslaved barbarians were 'butchered to make a Roman holiday,' captives, perhaps of gentle blood, shared the same fate within sight of the 'House of Minos,' and that the legends of Athenian prisoners, devoured by the Minotaur preserve a real tradition of these cruel sports."

The sinister impression which is given by this discovery is not dispelled by the sight of the deep walled pits, described by Mr. Evans, which are no doubt, as he says, the dungeons of the Palace.

"In these deep pits with their slippery cemented sides above, the captives would be secure as those 'beneath the leads' of Venice. The groans of these Minoan dungeons may well have found an echo in the tale of Theseus."

One is irresistibly reminded of Watt's picture in the Tate Gallery of the horrible Minotaur leaning over the high battlements of Knossos, looking out to sea, awaiting the bringing of his prey. The civilization of Knossos was probably by no means Arcadian, even if it was Pelasgic!

#### EVIDENCES OF GLACIAL MAN IN EUROPE AND AMERICA.—

The discovery at Lansing, Kansas, in deposits judged by so high authorities as Professors Winchell and Williston and Mr. Warren Upham, to be undisturbed and of the Iowan stage of the Glacial epoch makes it desirable to give, in this connection, a brief summary of the evidence of Glacial man which had already accumulated.

The existence of glacial man in Europe was first determined in connection with the high-level river gravels in the valley of the Somme, situated in Picardy, in the northern part of France. There in 1841 Boucher de Perthes reported finding rudely fashioned stone implements in undisturbed strata of the high-level gravel terraces which reach an elevation of 90 feet. By various means these are decided to be of glacial age.

But for twenty years his discoveries were ignored by scientific men until at length, in 1858 and 1859, several English and French savants, including Professor Prestwich, Mr. John Evans, Sir Charles Lyell and M. Gaudry visited the region and made independent discoveries such as fully satisfied the scientific world. Since then similar discoveries have been made at various places in France, Belgium and Southern England.

Of special interest have been the remains of prehistoric man found in caverns. Of these Kent's Hole in England and the caverns on the property of



the Count of Beaufort, in the commune of Spy, in the province of Namur in Belgium have attracted most attention. The second of these, known as the "Man of Spy," consists of the larger portions of two skeletons, including a nearly perfect skull of the male. In many important particulars this skull has a resemblance to that at Lansing. It has the same beetling eyebrows, retreating forehead and projecting lower jaw. (The most accessible account of this accompanied by a photograph, will be found in Wright's *Man and the Glacial Period*, pp. 275-278. A full discussion of it by Prof. Huxley, appeared in the *Nineteenth Century*, Vol. XXVIII, Nov., 1890, p. 774.)

In case of the Man of Spy, however, and of the human remains in other caverns the connection with the glacial period is largely inferential, depending on the assumed primitive character of the skeletons, and on their association with the remains of animals which became extinct in Europe soon after the glacial period, if not with it. Among these are the Mastodon, the Lion, the Tiger, the Leopard, the Hyena, the Rhinoceros, the Cave Bear and the Musk-Ox. It is also the occurrence of similar remains in the high-level river gravels of Northern France and Southern England which largely determines their glacial age.

The discovery of the relics of glacial man in Europe naturally stimulated investigation in America. The first results of this interest appeared in California where Prof. J. D. Whitney was conducting the State Geological Survey. The most striking of these discoveries occurred near Sonora, at Altaville, in Calaveras County, where a skull was said to have been found in gold-bearing river gravel buried about one hundred feet beneath the lava deposits of Table Mountain. Many other human relics were, from time to time, reported as found under this lava deposit, but the genuineness of them all, including the "Calaveras Skull," was hotly contested.

Later, however, Mr. Clarence King became sponsor for a "pestle" which he took out with his own hands from what he considered to be undisturbed gravel beneath Table Mountain at Raw-hide Gulch near Sonora. Later still Mr. Geo. F. Becker of the United States Geological Survey obtained possession of a mortar concerning which he had, what he considered to be, the best of evidence that it was from a similar position near by. This was soon followed by the discovery in the same vicinity of another mortar, found by Mr. C. McTarnahan in the Boston mine underneath Table Mountain 175 feet from the mouth of the tunnel.

The age of these California discoveries, admitting them to be genuine, is not easily determined; for, the lava outflows of the region have been of various dates, coming down to quite recent times, while the stream erosion by which to estimate the age has proceeded at unknown rates. But there is much the same association of the bones of recently extinct animals with the gold bearings of California that is found in the late glacial deposits of Europe and the Eastern United States.

Coming now to the Mississippi Valley and the Atlantic Coast, we find that as early as 1875 Dr. C. C. Abbott began to report finding roughly chipped implements in the stratified gravel composing the broad delta terrace, 50 feet above tide level, upon which the city of Trenton, N. J., is built. He was facilitated in making these discoveries by the extensive excavation which the Pennsylvania Railroad was carrying on to obtain gravel near their station, and by the existence of various pits to which resort was had by private parts for the same purpose, as well as by several perpendicular exposures of the bank where it was undermined by the Delaware River. In all, Dr. Abbott has reported the finding of twenty-five or thirty implements in the undisturbed strata of this terrace at varying depths down to sixteen feet.

Geologists all agree that this delta terrace is of glacial age, having been deposited at tide water by the vast floods which came down the Delaware River during the last stages of the Glacial Period, when the front of the melting ice

sheet was about 60 miles north of Trenton. The only question raised has been whether Dr. Abbott may not have been mistaken in thinking that the gravel in which he found the implements was undisturbed.

To account for the occurrence of the implements at the depths reported, various theories were propounded. Some suggested that the implements had fallen into cracks in the earth, or into Gopher holes, or down openings made by the decaying tap-roots of trees; while others supposed that the deposits in which the implements were found may, in each case, have been a talus of material which had fallen down from the top of the bank.

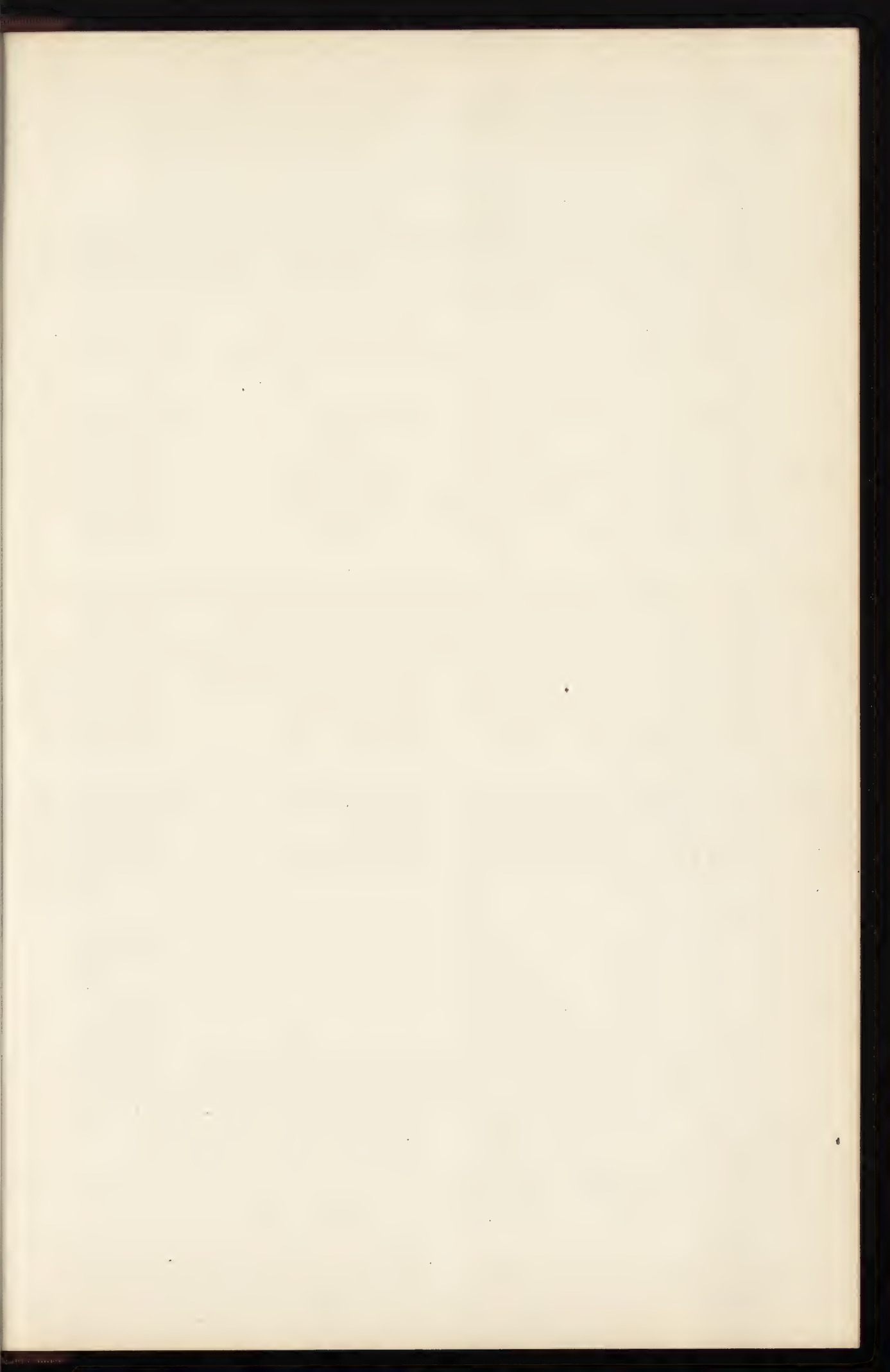
In support of Dr. Abbott's conclusion there are to be adduced the character of the soil, which is such that it does not crack open in time of a drought; the central position and freshness of the excavations where the discoveries were made, which would render it unlikely that any careful observer could be deceived, much less Dr. Abbott; and finally the fact that, while on the surface thousands of flint and jasper Indian implements were found, none of this character occurred under the superficial strata of about one foot in thickness, below which depth the implements were all of argillite,—a slack rock metamorphosed by heat coming from contact with some Trap dikes in the vicinity.

But, to render the facts as certain as possible, Prof. F. W. Putnam of the Peabody Museum of Harvard College at different times sent Professors J. D. Whitney, Lucian N. Carr and N. S. Shaler down to Trenton to make independent investigations, and finally went himself. Each of these high authorities reported in detail finding implements in what he judged to be the undisturbed gravel of glacial age. (See proceedings of the Boston Society of Natural History, Vol. XXI, for January 19, 1881: Report of the Peabody Museum, Vol. II, pp. 44-47; chap. XXXII of Abbott's *Primitive Industry*; and the *American Geologist*, Vol. XI, pp. 190-184.) For several years, also, Prof. Putnam has employed Mr. Ernest Volk to dig over and carefully explore a large area of the Trenton gravel to a depth of four or five feet, with the result that he everywhere finds a total absence of modern Indian implements below one foot, but does find numerous implements of an earlier type and of a different material (argillite) in the lower part of his excavations. Finally, in 1900, Mr. Volk succeeded in discovering, and photographing in place, a human femur in undisturbed gravel strata fifteen or sixteen feet below the surface which are unquestionably of glacial age.

Other places where the remains of glacial man have been reported by observers of high authority are at Madisonville, near Cincinnati, Ohio, by Dr. C. L. Metz; New Commerstown, Ohio, by Mr. W. C. Mills the present Curator of the Ohio State Archæological Society; Brilliant, near Stubenville, Ohio, by Mr. Sam Huston, the county surveyor and a collector of wide reputation; Little Falls, Minn., by Miss F. E. Babbitt, later reported upon by Prof. N. H. Winchell, Warren Upham and W. H. Holmes.

It is necessary to say, however, that in each of these cases the genuineness of their connection with the Glacial Period has been stoutly challenged. But if there shall prove to be no way of successfully challenging the glacial age of the Lansing Skull there will be little reason to continue the challenge in the other cases. This fact gives to it peculiar importance.







HARPIST FROM BALUK HISSAR



# RECORDS <sup>OF</sup> THE PAST

OCTOBER, 1902

VOL. I



PART X

## THE IMPERIAL OTTOMAN MUSEUM AT CONSTANTINOPLE

BY ARTHUR E. HENDERSON<sup>1</sup>

IT is not generally known in the West that in the capital of the Turkish Empire there is a magnificent museum, whose patron is none other than His Imperial Majesty the Sultan; while to his excellency, Handy Bey, the delightful director, is due great credit and thanks for the care and trouble which he has bestowed in collecting both historical and artistic relics of by-gone times and nationalities within the limits of the present dominions of the Sultan.

Before the museum was founded by his Excellency, and even, unfortunately, at the present time, though to a far less extent, beautiful objects of art, whenever found, were sold to individual collectors and smuggled out of the country, and often entirely lost to the real student of archæology. Now that traveling and illustration are so facilitated, it is advisable to keep antiquities as near the spot of discovery as convenient. And what better place for a museum can there be than the Acropolis of Old Byzantium, New Rome, Constantinople the capital of Mediæval Greece, and now known as Stamboul, the city of all nationalities, uniting the unchangeable East with the transitory West.

I. Fifty-two years ago the collection was begun in the cloister of the Holy Peace, an old church dating from the VI century, which the Turks transformed into an armory after the conquest, and it still contains many relics of the Crimean and Russian wars.

II. In 1878 the archæological collection was removed to the exquisite old Turkish residence known as the Chinili Kiosk, or "Tile Cottage," so called because of the faïence which decorates the façade within the arcading. The Kiosk is situated within the Seraglio grounds and forms a part of the extensive and picturesque groups of Imperial buildings crowning the first hill of New Rome. The Conqueror, Sultan Mohammed II, was himself the builder in 1466, after a residence of three years among his new subjects. Did it ever occur to him that his little palace would eventually be a museum containing the treasures of the forefathers of his lately subjugated Greeks?

<sup>1</sup>Specially deputed by the Sultan to photograph and make paintings of the Mosques of Constantinople. See the article on Cyzicus.



CHURCH OF THE HOLY PEACE

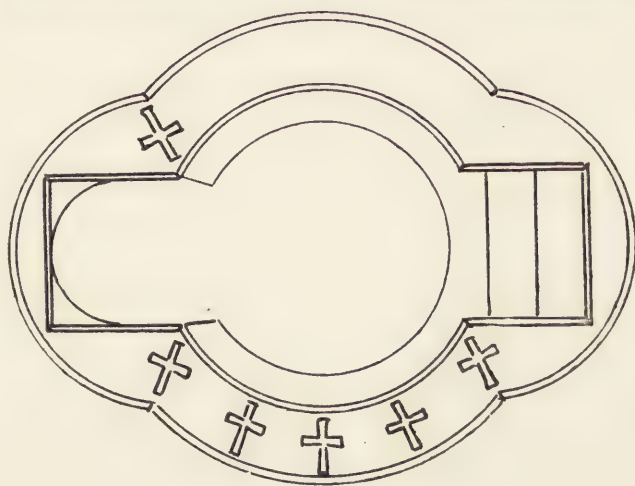
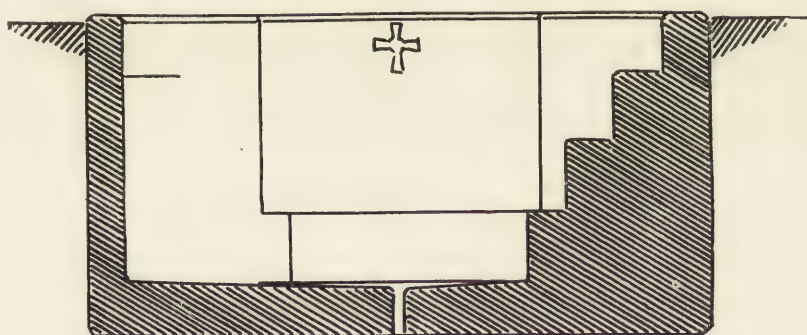
The next encouragement to the growth of the museum was the addition of the Sidonian sarcophagi, for which Handy Bey obtained a grant and built a fine new museum and library facing Chinili Kiosk; to this a large wing is now being added to accommodate the Babylonian collection of tablets and other later finds. The exhibit cases are now being placed in position with the expectation of opening the addition this coming year.

III. The approach to the museum is lined with numberless steles, archæological fragments and statues which are always minus some important portion of their anatomy, but among them is one object of special interest, a huge monolith of Proconnesian marble sculptured into a font for total immersion. Within, steps are carved, leading down to the water.





CHINILI KIOSK



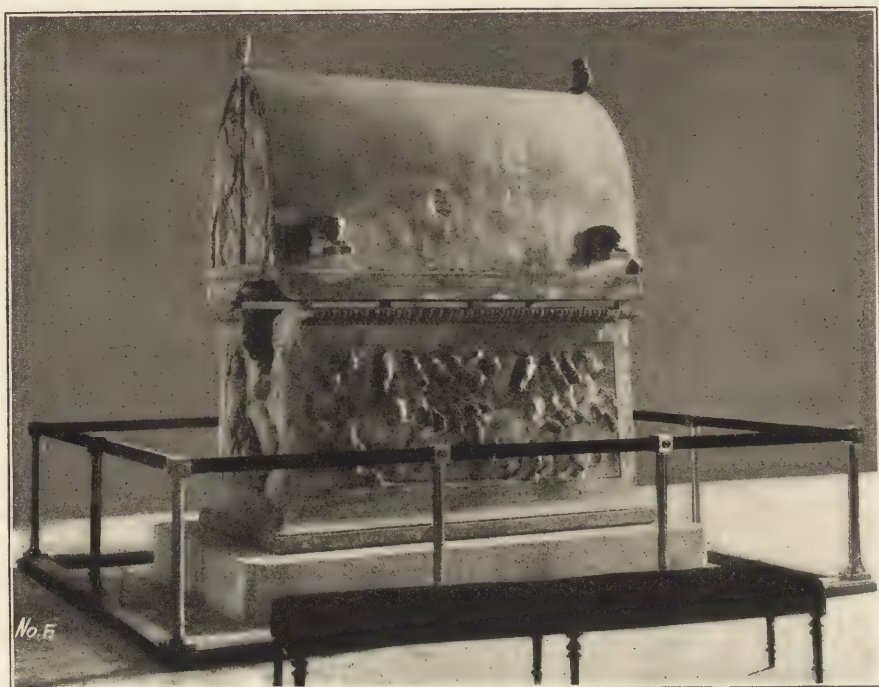
BAPTISMAL FONT



SARCOPHAGUS OF ALEXANDER

IV. It is customary to visit the new museum first as here are seen the Sidonian sarcophagi, the central pivot of the entire collection. These superb antique sculptured white marble coffins were first seen by Mr. Eddy, an American missionary in Syria. The peasants who were accustomed to bring him beautiful heads and other portions of statuettes, found an ancient necropolis in the fields near Sidon, the capital of ancient Phœnicia. Mr. Eddy at once communicated the discovery to Handy Bey who went personally to superintend the removal of the no less than eighteen sarcophagi. One of them, sculptured in the IV century B.C., when Greek art was at its zenith, is unrivalled. What joy his Excellency felt when unearthing this priceless treasure, none but an archæologist can feel, for it had been hidden down deep underground for twenty-four centuries. It is called the Alexander sarcophagus, but as it bears no inscription, conjectures about it are afloat; the most probable of these is that Alexander the Great was so smitten with remorse at having caused his general, Perdicas, to be assassinated under a false suspicion of treachery, that he ordered the very best sarcophagus that art could produce to receive his remains, but Alexander died suddenly and the sarcophagus fell into the hands of an eastern satrap or governor who was ruling in Syria.





THE LYCIAN SARCOPHAGUS

The sarcophagus is in the shape of a Grecian temple, with panels instead of columns about it. The people of Boston have the privilege of studying the two finest of these panels which were delicately copied for the Art Museum by Mr. Lindon Smith. Of these the more interesting represents Alexander's Greeks in a hand-to-hand encounter with their hereditary foes the Persians. Neither side seems to have the advantage. The other panel depicts the same combatants at peace, exercising their bravery as huntsmen. The activity of the ancient warrior was such that if he had no more worlds to conquer, he must subdue the beasts of the field. The figure work is in almost full relief, perfect, and tinted with pigment. For some time after its discovery an important head from the very center of the battle scene was missing, but one morning when Handy Bey and the French consul were lunching together, the beautiful little marble head rolled from the Director's napkin. The sarcophagus was now complete.

V. Another is the Lycian sarcophagus, named from the style of its design, and of an earlier date, probably from the V century B.C. Its panels are sculptured in bas-relief. One of its long sides represents the Amazons hunting a lioness; the other, some Greek horsemen transfixing a boar. This piece of sculpture is one of the finest works of art in the museum.

VI. The pediment panels are filled with quaintly designed sphinxes, and the ends depict contests between centaurs and Lapithæ, in superb design and workmanship.



EGYPTIAN BASALT SARCOPHAGUS

VII. In the same salon is a large black Egyptian basalt sarcophagus of the usual design, originally containing, as the accompanying hieroglyphics state, the mortal remains of Penephtha, an Egyptian general. The lengthy inscription is a curse upon any who may desecrate his last resting place. But hieroglyphics were not readable to Tabnit, the king of Sidon in the VI century B.C., for he secured the sarcophagus and wrote another curse upon it more weighty than the first:

"I, Tabnit, priest of Ashtoreth, King of Sidonians, son of Eshmonazer, priest of Ashtoreth, King of the Sidonians, lie at rest in this tomb. Whoever thou art who discovers this tomb, do not I adjure thee, open my coffin, and do not disturb me, for there is neither silver nor gold nor treasure beside me. I rest alone in this tomb. Do not, I adjure thee, open my coffin or disturb me, for such an act is an abomination in the eyes of the Ashtoreth. If thou openest my coffin and disturbest me, mayest thou have no posterity among the living under the sun, and no resting place among the dead."

What a commentary on his truthfulness! A number of jewels were found by the side of his body, and as a reward this great lord of Phoenicia lies shriveled up in a glass case on a window sill near by his ill-gotten coffin.

VIII. Another of the best of the Sidonian sarcophagi, called the mourners, is in the design of an Ionic temple with a colonnade of eighteen pillars; between them is sculptured in bold relief the owner's wife in various attitudes of grief. The posing of the eighteen forms of sorrow is somewhat academic,—late fourth century B.C. work has lost the vigor of the





ARTEMIS



HERCULES



SARCOPHAGUS OF THE MOURNERS



BABYLONIAN SARCOPHAGUS

earlier masters. The sculptor, however, gave his fancy play around the Popium, depicting a great hunting party, some hundred men in pursuit of panthers, bears, boars and deer. When the sarcophagus was opened, the bones of the huntsman were found along with those of his favorite hounds. Beside the Sidonian sarcophagi, many others of great interest have come to the museum from Selucia, Salonica and other Roman cities. Their artistic value is less.

Ascending the staircase we enter the hall of the Egyptian exhibits. At the left is a salon containing Osmanli art. A faïence Mirhab or holy niche from the mosque of Sultan Ala-ed-Din, Konia, ancient Iconium, is noteworthy. It is made of small tiles beautifully painted and fitted together: the predominating color is blue.

IX. The opposite salon contains some of the most valuable historical tablets in the world, discovered by the expedition of the University of Pennsylvania, at Nippur. Some of these Dr. Hilprecht dates much earlier than 4,000 B.C. In the cases at the end of the salon are two barrel-shaped inscribed cylinders from Nebuchadnezzar giving an account of the erection of his palaces and the city walls of Babylon. Near by is the stele of Nabonidus, the last king of Babylon, 555-538 B.C. His son, the crown prince, was Belshazzar, who saw the mystical handwriting, his doom, on the palace wall. Other peculiar objects are the slipper-shaped blue-glazed earthenware coffins discovered by Dr. Peters at Nippur. They are interesting as they show that Della Robbia was forestalled in his art by over 2,000 years. On the coffin, figures in relief were modeled before the baking and glazing.





HERCULES OF CYPRUS

X. Chinili Kiosk, as before mentioned, is of Oriental architecture. Beneath its graceful portico are stored various coats of arms and other sculptured details from the old foreign residences in the Levant. On the right of the colonnade is a gigantic archaic statue from Cyprus, representing Hercules holding a lion downward by the hind legs. Unfortunately the head of the lion is lost, but enough remains to indicate that the statue was once a fountain, and that the water flowed from the lion's mouth. The work is very crude; the giant's strength is indicated by the horns on his head and the general fatness of his limbs and body.



HERMES



DANCING MAIDEN

XI. A striking contrast to it is in the Bronze room, a rather small statue of the very finest workmanship, also of Hercules, found in the Epirus. The modeling of the entire form of the mighty warrior displays his muscular power. He is on the warpath, shouldering his knotty club, and with the lion's skin on his arm.

XII. In the Bronze room the object which attracts the most attention is a fragment of a serpent's head, which with two others was severed from the serpent coil by the sword of Mohammed, the conqueror. This head





SERPENT'S HEAD FROM PLATAEA

was found in the precinct of St. Sophia. The bodies of the serpents still stand on the Spina of the old Byzantine Hippodrome, forming a corkscrew spiral column upright on their tails. Low down on the spirals are engraved the names of the ancient Greek cities which took part in ejecting the Persians in 479 B.C., culminating with the glorious victory of Plataea. This is the very three-headed serpent tripod from the side of the altar within the sanctuary of the renowned Oracle of Delphi. Originally it supported a golden bowl with its sweet incense. It was brought by Constantine the Great, together with other pagan works of art to beautify his capital, New Rome.

XIII. In one of the cases, another good piece of modeling is in the form of two bronze statuettes from the best Greek period. Of the two wrestlers, the victorious is evidently Hermes, the god of war, as his attributes would indicate.

XIV. In the corner of the same room is a beautiful Grecian terracotta vase overlaid with gold leaf and pigment, found at Lampsacus near the Dardanelles. The modeling in high relief on its surface which renders the object unique, is open to criticism, for the figures, following the curves of the surface, look distorted. This would of course be quite legitimate in drawing, but in modeling the effect is unnatural.

XV. Returning to the central portion of the Kiosk there are two marble bas-reliefs of especial beauty. The first is a dancing maiden from a temple at Pergamos. The lovely contour of her agile form visible through her clinging garments is suggestive of sprightly motion, so realistic that one may believe that she is actually dancing before his eyes.

XVI. The other, called the harpist is the representation of a maiden moving to the accompaniment of the melody of her lyre. It was found at Baluk Hissar.

XVII. Also noteworthy is an especially good sculpture of an Artemis of the Roman period. It was found by Mr. Wood at Ephesus. Statues of Hadrian, Nero and other Emperors, gods and goddesses, but few of great artistic merit, can be passed by. Here and there are several interesting architectural details.

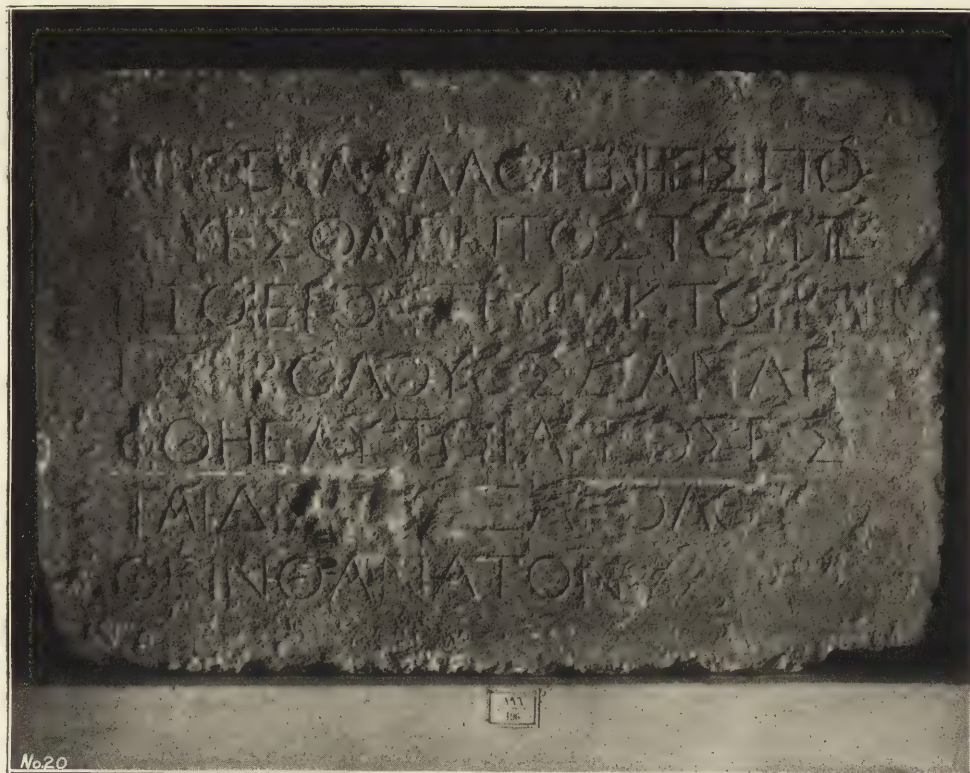


VASE AND CAPITAL FROM LAMPSACUS



THE SILOAM INSCRIPTION





INSCRIPTION FROM HEROD'S TEMPLE

XVIII. An illustration is a pre-Ionic capital found at Lampsacus. Architects will note the peculiar form of the volute spirals which do not unite at the center but, springing upward from a lotus capital, look as though the architrave above had been a timber beam. The entire design seems to have been derived from Assyrian sources.

XIX. In the Hittite room are placed two famous inscriptions of Biblical importance. The earliest Hebrew inscription extant and one of the most valuable objects coming from antiquity is the Siloam Inscription which was accidentally found by a boy while bathing in the Pool of the Virgin, near Jerusalem. It probably dates from the reign of King Hezekiah and is the record of the construction of the tunneling of the conduit to bring a new water supply to the city. The following translation speaks for itself.

"The excavations. Now this is the history of the excavations. While the excavators were still lifting up the pick, each toward his neighbor and while there were yet three cubits to [excavate, there was heard] the voice of one man calling to his neighbor, for there was an excess of the rock on the right hand [and on the left]. And after that on the day of excavating the excavators had struck pick against pick, one against the other. . . . The waters flowed from the spring to the pool for a distance of 1,200 cubits, and [a part] of a cubit was the height of the rock over the head of the excavators." See II Kings xx, 20, and II Chron. xxxii, 30.

XX. The other stone, found by Mr. Clermont Ganneau, is an inscribed notice written in Greek upon one of the building stones of the outer court of Herod's temple at Jerusalem. The notice forbids Gentiles under pain of death to enter the inner court which was reserved for the Hebrew people alone.

In the new wing of the museum is already a large Roman sarcophagus from Konia, and numerous portions of mosaic floors from various places, and we may now expect to see many interesting things which have never yet been on public exhibition, but rubbing against each other in dark cellars.

We have taken but a mere glance at this interesting museum, but we must not close without wishing that the worthy Director may still have many years of useful work before him and live to see that his strenuous efforts are being appreciated.



PANEL FROM ALEXANDER'S SARCOPHAGUS

\* \* \* \*

### CYZICUS

BY EDGAR JAMES BANKS

THE story is told that when Jason was in search of the Golden Fleece he stopped at an island in the Marmora upon which he found a city ruled by the King Cyzicus. Here he was hospitably entertained and again started on his journey, but before going far, darkness came on and he landed his companions on the shore. In the darkness the people of Cyzicus mistook the Argonauts for an invading army and attacked them, but Heracles, one of the companions of Jason killed King Cyzicus. In the morning when it was light the people saw that the supposed invaders



were no others than the followers of Jason and they received them back into the city to join in the general mourning. The tears of the grief-smitten Clyte, the wife of Cyzicus, flowed abundantly and from the spot where they fell a spring of water gushed up. The little stream now winding about among the ruins of the ancient city is still called the ruin of Clyte. Before his departure Jason assisted the people in erecting a temple in honor of the fallen king, and another to Heracles, his slayer.

The island of Cyzicus, or Arctonnesus, as it was earlier called, lies just off the coast of Mysia, and is the site of one of the most ancient and powerful cities of Asia Minor. The city of Cyzicus seemed to have been founded as early as 675 B.C. by the Milesians who made it the center of the trade with the Black Sea. At that early date two bridges joined the island to the mainland. The city's wealth and power rapidly increased and it soon became the center of the trade of the ancient world. Its political influence kept pace with its wealth for it played a prominent rôle in the Peloponnesian war and shook off the Persian supremacy. Under Alexander the Great and his successors the city retained its independence, and the great general showed his attachment to it by filling up the channel which separated the island from the mainland, and Cyzicus ceased to be an island. In 75 B.C. Mithridates besieged the city in vain; his repulse was followed by a period of the greatest prosperity. Its growth was continual; Constantine made it the head of the province of Hellespontus, but in 443 during the reign of Antonius Pius, while at its height, it was nearly destroyed by an earthquake. The city never regained its former glory, and its ruin was completed in 675 by the plundering Arabs.

Nothing better illustrates the financial supremacy of Cyzicus than the fact that the money which it coined was accepted in every part of the civilized world. On one of its coins was stamped the image of an ox. The story is told that, while an eloquent Athenian statesman was delivering an oration in favor of the people of Cyzicus with greater power than usual, it was suggested by one of his opponents that he had an ox on his tongue, meaning of course that he had been bribed with the money of Cyzicus. The expression later passed into a popular Athenian proverb.

At the present time, a small Greek village of huts, Yeni Keni by name, is situated near the ancient site and from among the vineyards and mulberry groves which cover the ancient ruins rise the remains of the ancient city walls and the tall supporting arches of the great amphitheaters and temples; the modern stone walls separating the field of one peasant from that of another consist largely of fragments of marble carving, a testimony of the grandeur of the ancient city.

A topographical survey of the site of Cyzicus has just been made by the British School of Archæology at Athens. The work was in charge of Mr. Arthur E. Henderson, of the Royal Society of British Artists, a young English architect and artist whose water color paintings of the interior of the mosque of St. Sophia are now attracting considerable attention; for, His Majesty the Sultan of Turkey has issued an irade permitting him to paint and to take photographs of the mosque of Constantinople. Mr. Henderson was assisted by Mr. Hasluck from the University of Cambridge. The results of the work will soon appear in the publication of the British School of Archæology at Athens. It must suffice here to say that although no excavations were made, a number of ancient Greek inscriptions were

discovered, and, while in company with the present writer, Mr. Henderson pulled from a stone wall a headless, but beautiful life-size marble statue of a sitting woman, which would adorn any museum. In another place the large sculptured head of a dolphin served as the end stone of a wall which ended in an irrigating ditch; fragments of Corinthian capitals, inscriptions and statuary are used by the peasants with no more respect than would be shown to a boulder. Under one of the great arches of the amphitheater we found a Turk busy hammering out Turkish tombstones from the marble columns of the ruins. The saddest sight of all, and not an uncommon one in Turkey, was on the top of the temple of Hadrian which the earthquake laid low. Some desecrating ignorant native has built a large limekiln of marble there. When we saw it, the kiln was filled with small fragments of marble chipped off by this enterprising native from the sculpture which was lying in the ruins, destroying all upon which he could lay his hands. The arch beneath the kiln was filled with brushwood ready to be kindled and turn these precious monuments of antiquity into lime. Just by the side of this kiln was a heap of the crumbling marble. And this was all within a stone's throw of the station of a Turkish guard. Priceless inscriptions, beautiful statuary, magnificent carvings turned to lime, the lime sold for a few piasters, the piasters seized by some unauthorized tax collector! What a commentary on the archæological training which we have received and have not imparted to others.

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### "THE OLDEST BOOK IN THE WORLD"

SOCIETY, ETHICS, RELIGION, IN EGYPT BEFORE 2,000 B.C.

The French Version of the Papyrus Prisse, by M. Philippe Virey.  
Translated by Professor Howard Osgood.

[The very obscure text of this manuscript has been often translated but heretofore not satisfactorily. M. Virey, while attached to the mission at Cairo, devoted six years to the study of the work and has presented a translation upon which little improvement can be expected. This Dr. Osgood has turned into English, so that now we are able to present it with the introduction of M. Virey in a form that must prove acceptable to a very large reading public.]

#### PREFACE OF MONSIEUR VIREY

ALL that is known of the origin and discovery of the Prisse Papyrus was made public long ago by Chabas in "Le Plus Ancien Livre du Monde, Etude sur le Papyrus Prisse," *Revue Archéologique*, 1858. I do not pretend to do anything more than give a summary of the statement by Chabas.

Prisse, who gave this papyrus to the National Library in Paris and published it in 1847 ("Fac-similé d'un papyrus Egyptien en caractères hiéroglyphiques," Paris, Franck), had obtained it from one of the peasants whom he employed on his excavations at Drah-abo'l-Neggah, in the necropolis of Thebes. This man pretended to have received the manuscript from a third person, who did not know whence it came; but Prisse suspected that they wished to make him pay for an article which already belonged to him, found among the excavations which were being made at his expense, and that the papyrus must have come from the tomb of one of the Entews of the elev-



enth dynasty. The large and solid character of the writing gives the impression of a date earlier, rather than later, than the twelfth dynasty [2,600 B.C.].

But if there is still uncertainty regarding the *time when the copy which has come down to us was made*, on the other hand, we know exactly to what date we can trace the *composition of the text*, and we know it from the text itself.

Our first two pages, in which we find some precepts concerning manners and morals, form a treatise which was composed in the beginning of the reign of the king Senoferu (third dynasty) [about 3,900 B.C.] by a man named Kakimna: "At this time the majesty of the king of the south and north, Huni, arrived in port [died]; then arose the majesty of the king of the south and north, Senoferu, a king beneficent over this whole land; then I, Kakimna, was made prefect." The last sixteen pages contain a treatise on morals composed by the prefect Ptah-hotep in the reign of Assa (fifth dynasty) [about 3,500 B.C.]: "Precepts of the prefect Ptah-hotep, under the king of the south and north, Assa."

The name of Ptah-hotep, common under the ancient empire, is found also in connection with the name of Assa, where he is called "the favorite of Assa, Ptah-hotep." This Ptah-hotep is perhaps the author of our book, for he boasts of having been "favored by the king among the first of those whose works have made them noble." One passage seems to indicate that he was of the royal race, for he is called, "the son of the king, eldest, legitimate"; however, this last point does not seem at all certain. We might question why the eldest and legitimate son of the king did not reign, if he lived, and Ptah-hotep did not die early, since he was one hundred and ten years old when he wrote his treatise. To admit that he was the son of Assa, and that he died before this king, one must attribute to the latter an extraordinary length of life.

But Professor Maspero has already shown that one must not take literally the titles of "royal mother, royal wife, royal daughter"; and that a woman was a royal wife, for example, by right of birth, before marriage. These names served only to determine the rank which a princess occupied at the court in matters of etiquette and precedence.

If the name of royal wife was only an honorary title, I take this as warrant for supposing that one could be called a son of the king without really being one; and that the title meant "prince"; in this case "son of the king, great, legitimate," was equivalent to "prince of the blood." That this last name could have been given to a person not belonging to the royal family, is not without example in contemporary history, even in the West; there is all the stronger reason therefore that it might happen in the East, where high-sounding epithets accumulate so easily. At the Egyptian court, where the king was the source of all privilege, and all honors came from the king, perhaps all nobility consisted in attaching one's self, at least nominally, to his family, or in drawing near to it. The relatives of the king bore the highest title; but the "royal nurses" themselves, gloried in "the suckling which had mingled their blood with Horus."

Ptah-hotep, at the age of 110, after so many years of service, must have attained the highest dignities, and if the title of prince of the blood appears lofty, I remember that he was first among those whose merit had made

them noble. Then enfeebled by old age, forced to give up the work which had made his glory, but unable to resign himself to live uselessly during the remaining days of his life, he resolved to write for younger generations the lessons of wisdom which he himself had received from the ancients, or which long experience had taught him. By a poetic fiction, he addresses himself to Osiris, depicts the miserable state to which old age and infirmities have reduced him, and asks if the god will permit an intelligent being to be condemned to be good for nothing. Osiris replies to his prayer and commands Ptah-hotep to teach the wisdom of the ancients which they learn from the gods.

Then Ptah-hotep begins to "set in order the good word," and sets it in order with a fertility of invention, the cause of which I will soon state. He has chosen his son for hearer; otherwise his doctrine is applicable to all men. After the explanation of his precepts, he returns more directly to his hearer, "If thou dost listen to what I have just told thee," etc.; and sings the praises of this doctrine. The *ma*,<sup>1</sup> wisdom and knowledge, were acquired by listening with docility, for docility is the best of all. And since these old precepts are good, they must be held, and no one should teach new ideas. Undoubtedly some innovators will make themselves heard by the ignorant crowd (§ 42), and for a time inspire the public with confidence; but their glory will not last as long as they wish. Therefore nothing must be taken away, nothing added, nothing changed of the established teaching; and if anyone feels ideas contrary to these germinating in himself, he must beware of disclosing them.

This horror of new ideas and of innovators is interesting to see in the oldest book in the world; but one must not hastily conclude from this that Ptah-hotep was unfriendly to all kinds of progress. He himself says that "the barriers of art are not closed, no artist having attained that perfection to which he should aspire." Only the teaching of morals has been perfect from the earliest times, because it is of divine origin; therefore it must remain unchanged. But it is not forbidden to comment upon these established precepts; the author considers them a "canvas to be embellished," upon which the masters shall exercise their eloquence; but in order to comment upon them without falsifying their spirit, knowledge is necessary, knowledge acquired by application and docility. Again and again he insists on docility; the docile son who receives the word of his father shall live long for that reason, he shall please his lord and obtain favor of the king; on the contrary, the man without experience, who does not listen to the counsels of wisdom, goes astray and is on the road to ruin. And Ptah-hotep ends by quoting his own example: "I have reached one hundred and ten years of life, blessed by the favor of the king among the first of those who have exalted themselves by their works, doing the pleasure of the king, in an honored place."

As for these precepts, the study of which will be fruitful in its results, I shall not try to sum them up here. The work is so composed that such an

<sup>1</sup>The *ma*, upon which Professor Grébaud has made a most interesting and complete study in his lectures at the College of France, includes here what we call "the true, the beautiful, the good"; it is the principle of order and harmony in everything. This explanation, which I give here of the meaning of this passage, is entirely insufficient and the question is very complex; but more careful examination would lead to details which would not be in place here.



attempt would lead me to bring into this introduction almost my entire translation; or else I would be obliged to limit myself to a simple list of titles which would not be interesting and would give the impression that the treatise is dry. On the contrary, it is a collection of counsels which, taken separately, are generally very well drawn up, but which follow one another without much order; when two of them can be connected it is because the author insists upon one idea and returns to it; but it is very hard to find any trace of method; still less must we look for the spirit of system, the well-ordered development of a philosophy, which one could grasp and epitomize. For this Ptah-hotep does not care; not that his work is slovenly; on the contrary, the style is very elaborate, sometimes even overwrought, and this leads me to speak of the difficulties of various kinds which embarrass the translator.

The subtlety of the style, which has been considered not the least of these difficulties, is due principally, I think, to the Prisse Papyrus having been written in verse; the oldest book in the world is a work, if not poetic, at least rhythmic. In this will be found the explanation of constructions which seem a little strained, for example: "While the father is in great sorrow, and the mother who bore him, another is happier than she." This shows us what Ptah-hotep means when he says that he "set in order the good word." But this order will aid the translator more than it will embarrass him, since the discovery by Professor Grébaut of the laws which regulate the poetic language of the Egyptians enables us to divide the phrases with certainty.

Another difficulty appears to be more serious; it is due to the use of a certain number of words whose exact meaning we do not know. Some of them, undoubtedly fallen into disuse at an early date, have never until now been met with in the other texts which we have. We may hope that fresh publications will bring us new examples of them. The Ebers Papyrus has given us some Archaic words; and Archaic terms may yet be found in the numerous texts of the old Empire which Professor Maspero has published. Moreover, in spite of the beauty and the size of the writing, the text is not always as easy to decipher as one would think at first sight. There are passages of whose meaning I cannot be sure, because I have not yet been able to read them in an exact manner. Sometimes the writing is much abbreviated, which is very embarrassing in the hieratic. Finally, though the manuscript is in general well kept, it is not irreproachable. Thus, I have noticed evident faults, and I also think I recognize the omission of some words where the phrase seems to have no meaning and where the verse is too short.

In spite of many difficulties, this papyrus is so interesting that at an early date Egyptologists courageously undertook its duty. Without pretending to reach by the first step complete and definite results, they could at least grapple with the subject, and it is no mean result to make known little by little, even imperfectly, a document of this value. Though Dr. Heath, who set the example in 1855, did not succeed in making Egyptologists accept his too bold interpretations, Chabas some time after was more successful. I have already spoken of his work published in the *Revue Archéologique*. Under the modest guise of an analysis, he gives a satisfactory translation of the first fourteen lines of the treatise of Ptah-hotep and of

important passages from the latter part; the rest of the work is simply analyzed. This analysis was very incomplete; and by a partial translation one is liable not to grasp the exact meaning; nevertheless a great advance had been made. In 1869 and 1870, Lauth went further, and published a complete and coherent translation, accompanied by numerous notes. Such a translation must necessarily be far from perfect; but though one might make a number of criticisms upon this important work, its merit must not therefore be forgotten. It has many times been very useful to me, and I should make a greater point of this here, if I did not have occasion to speak of it constantly in the course of my work. Finally, the translations of Brugsch are very ingenious and interesting, and I shall often quote or discuss them. I had composed this study<sup>1</sup> before the work of Dümichen upon the first two pages of the papyrus appeared: the reading of his translation has not been useless to me, though mine had been finished long before.

Outside of the help furnished by the works of my predecessors, I have already said how much easier my task has been made by putting into practice the teaching of Professor Grébaut. But I wish at the same time to acknowledge what I owe to the masters who have, from the start, directed my studies; to Chabas, who, unhappily prevented by sickness from guiding me in the way which he had pointed out, did not cease to show me by many tokens of good will how much he was interested in my progress; and to Professor Maspero, who, taking up again the teaching hardly commenced, has taught me to decipher, and helped me with advice and encouragement in the accomplishment of a difficult work on a newly discovered manuscript which I brought from Thebes.

THE BOOK OF KAKIMNA.—A TREATISE ON MANNERS IN THE TIME OF THE  
KINGS HUNI AND SENOFRU OF THE THIRD DYNASTY

I am sure of being respected.<sup>2</sup> A song that is right opens the stronghold of my silence; but the paths to the place of my repose are surrounded by words armed with knives against the intruder,<sup>3</sup> no admittance except to those who come aright.

If thou sittest down to eat with a number, despise the dishes which thou lovest;<sup>4</sup> it is but a short time to restrain thyself; and voracity is something degrading, for there is bestiality in it [comp. Ptah-hotep, § 7]. As

<sup>1</sup>My translation of the first two pages was shown to Professor Grébaut in August, 1883. The remainder was sent as a thesis to the Ecole des Hautes Etudes in April, 1884. Various circumstances have delayed the publication of the work.

<sup>2</sup>The book is speaking here.

<sup>3</sup>In the 145th chapter of the "Book of the Dead," we find the gateways of the field Aanro guarded by gods "armed with knives," and the first gate is called "exterminating lady (?)" arranging the words which repulse the rebels"; which reminds us of these "words armed with knives against the intruder." The deceased or the Horus, who presents himself at each door in succession, must recite a sort of litany in which he explains that he is in order, that he enters by right. When he has discharged this duty, he is acknowledged pure, and the door opens. The substance of our sentence, therefore, is this: "I receive kindly those who deserve it; but none must come to disturb wrongfully my repose, which is guarded as well as the field Aanro." This comparison is interesting because it enables us, perhaps, to trace back to the time of Huni and of Senofru the 145th chapter of the Book of the Dead. It was a little later, under Menkara, that the prince Hartiti-f discovered, it is said, at Hermopolis, the 64th chapter (Book of the Dead, ch. 64, 1, 30 and 31).

<sup>4</sup>That is, "at a repast in society do not give rein to your appetite, your greediness."



a glass of water quenches thirst, as a mouthful of vegetables strengthens the heart, as one good takes the place<sup>1</sup> of another good, as a very little takes the place of much, he who is drawn away by his stomach when he is not on the watch is a worthless man. With such people the stomach is master. However, if thou sittest down to eat with a glutton, to keep up with him in eating will lead afar; and if thou drinkest with a great drinker, accept in order to please him. Do not reject the meats, even from a man repugnant to thee; take what he gives thee, and do not leave it; truly that is disagreeable.<sup>2</sup>

As for a man lacking good manners, upon whom all that one can say is without effect, who wears a surly face toward the advances of a gracious heart, he is an affliction to his mother and his relatives. All say: "Show thy name, thou whose mouth is silent; speak, be not proud because of thy strength!"

Do not harden the hearts of thy children. Instruct those who will be in thy place; but when he does not permit, none knows the events which God brings to pass. Let the chief talk to his children, after he has accomplished the human condition;<sup>3</sup> they will gain honor for themselves by increasing in well-doing, starting from that which he has told them.

If all that is written in this book is heeded as I have said it, in order to make progress in the right, they who heed will learn it by heart, they will recite it as it is written; it will do good to their hearts more than all things on this whole earth, in whatever position they may be.

Then at this time the majesty of the king of the South and of the North, Huni, arrived in port [died]; then arose the majesty of the king of the South and of the North, Senoferu, a king beneficent all over this entire land. Then I, Kakimna, was made prefect. It is finished.

#### THE PRECEPTS OF PTAH-HOTEP

##### I.

The Precepts of the Prefect Ptah-hotep.

Under the majesty of the king of the South and of the North, Assa, living eternally, forever. The prefect Ptah-hotep says: "O god over the two crocodiles,"<sup>4</sup> my lord, the progress of time brings old age. Decay falls upon man and decline takes the place of novelty.<sup>5</sup> A new misery

<sup>1</sup>The text means that for a man who is not a glutton one good thing is as good as another, and that a moderate amount of food repairs one's strength as well as a greater quantity.

<sup>2</sup>Professor Maspero thinks that reference is here made to that rule of politeness which consists in receiving, with at least the appearance of gratitude, the morsels which another guest divides with you as an honor. This custom is still in vogue in the East. If this guest is repugnant, as the text says, it is disgusting, but one must submit to the custom.

<sup>3</sup>That is, when he has gained the experience of life.

<sup>4</sup>This god is Osiris, as is shown by the 43rd invocation in the 142nd chapter of the "Book of the Dead." We might question why, among the many names of Osiris, Ptah-hotep chose this one. But, in an article in the *Zeitschrift für Ägyptische Sprache* (1868, p. 101), Chabas, studying the steles of Horus on the crocodiles, and observing that this god is called "the one grown old who grows young again in his hour, the old man who becomes a child," recalls our passage in the *Prisse Papyrus*, where Ptah-hotep invokes against the evils of old age the aid of the god over the two crocodiles.

<sup>5</sup>Doubtful translation. Literally: "comes upon newness."

weighs him down each day; the sight grows dim, the ears become deaf; the powers are constantly failing. The mouth is silent, speech is wanting, the mind flickers, not remembering yesterday. The whole body suffers. That which is good becomes bad, taste departs. Old age makes man miserable in every way; the nose is stopped, breathing no longer from exhaustion. In whatever position, this is a state (?) of . . . . (?) . . . .<sup>1</sup> Who will give me authority to speak<sup>2</sup> that I may tell him the words of those who have heard the counsels of former times? And the counsels of the gods which have been heard, who [will give me authority to tell of them]? Let it be thus; let the evil of the *rekhi* be driven away; send the double . . . .<sup>3</sup> The majesty of this god says: "Instruct him in the speech of former times. This it is that constitutes the worth of the children of the great. Whatever makes souls calm penetrates him who heeds, and what is thus told will not produce satiety."

## II.

The beginning of the arrangement of good words, spoken by the noble lord, the divine father beloved of God, the son of the king, the eldest of his race,<sup>4</sup> the prefect Ptah-hotep, as a means of instructing the ignorant in the knowledge of the choice of good words. There is profit to him who will listen to this; there is loss to him who will transgress them.

He says to his son: "Be not proud because of thy knowledge; converse with the ignorant as with the scholar; for the barriers of art are never closed, no artist ever possessing that perfection to which he should aspire. But wisdom is more difficult to find than the emerald; which is found by slaves<sup>5</sup> among the rocks of pegmatite.

## III.

If thou hast to do with a disputer while he is in his heat, and if he is superior to thee in ability, lower the hands, bend the back, do not get into a passion with him. As he will not permit thee to spoil his speech, it is very wrong to interrupt him; that shows thou art not able to be quiet when thou art contradicted. If then thou hast to do with a disputer while he is in his heat, act as one not to be moved. Thou hast the advantage over him, if only in keeping silent, when his speech is bad. "Better is he who refrains," says the audience; and thou art right in the opinion of the great.

## IV.

If thou hast to do with a disputer while he is in his heat, do not treat him with contempt, because thou art not of the same opinion. Do not be provoked with him when he is wrong; away with that! He is fighting against his very self; do not ask him to flatter thy views. Do not amuse

<sup>1</sup>The transcription of this passage is quite uncertain.

<sup>2</sup>I suppose the poet here asks of the god inspiration that he may speak with authority and success.

<sup>3</sup>I do not understand this word, I cannot even read it; I suppose that Ptah-hotep prays Osiris to give him his power or to send him inspiration, but I can only conjecture.

<sup>4</sup>Of his loins, that is legitimate. I have stated in the introduction how this title must be understood.

<sup>5</sup>Literal translation "being found, the latter, by female slaves."



thyself with the spectacle which thou hast before thee; this is odious, small, and of a contemptible spirit. Struggle against this, as something condemned by the great, when on the point of giving thy views.

## V.

If thou art in the position of leader, to decide the condition of a large number of men, seek the best way, that thine own position may be without reproach. Justice is great, unchangeable and assured; it has not been disturbed since the time of Osiris. To put an obstacle in the way of the laws, is to open the way before violence. Will the low be exalted if the unjust does not succeed to the place of justice, he who says: "I take for myself, according to my will," but does not say: "I take by my authority." The limits of justice are unchangeable; this is a precept which each man receives from his father.

## VI.

Do not intimidate men; or God will likewise contend with thee.

If anyone wishes to live by that means, he [God] will take the bread out of his mouth; if anyone wishes to enrich himself by that means, he [God] says: "I shall take to myself these riches"; if anyone wishes to strike down others, he [God] will end by reducing him to impotency. That none should intimidate men, this is the will of God. Let one give them life in the midst of peace, and he will obtain as willing gifts [what would have been taken from them by fear].

## VII.

If thou art among persons who are sitting down to eat at the house of one greater than thyself, take what he gives thee,<sup>1</sup> bowing low. Look at what is before thee; bowing profoundly. Look at what is before thee; but do not stare at it: do not look at it frequently; he is blameworthy who breaks this rule. Do not speak to him [the great man] more than he asks, for one does not know what might displease him. Speak when he invites thee to do so, and thy word will please.

As to the great man who has behind him the means of existence, his line of conduct is as he wishes. He does what pleases himself; if he forms the intention of resting, his body realizes it. The great man in stretching out his hand, does that to which other men cannot attain. But as the ["eating of bread"] means of existence are under the will of God, none can revolt against that.

## VIII.

If thou art one of those who carry messages from one great man to another, keep exactly to that he has enjoined upon thee; do his bidding as he has told thee. Beware of altering in speaking the repulsive things which one great man addresses to another; he who distorts the fidelity of his message by repeating only what is pleasing in the words of any man, great or small, is a detestable being.

<sup>1</sup>"When thou art sitting at meat at the house of a person greater than thou, look at what is before thee." This passage is found in the Proverbs of Solomon, chap. xxiii: "When thou sittest to eat with a ruler, consider diligently him that (marg. what) is before thee." It is a true translation. The Hebrews knew then, if not the whole of the maxims of Ptah-hotep, at least several of them which had passed into proverbs.

## IX.

If thou art a farmer, reap in the field which the great God has given thee. But do not surfeit thy mouth among thy neighbors; it would be even better to make thyself feared by the possessor. As for him who, master of his own actions, all powerful, seizes like a crocodile in the midst even of the keepers, his children are by reason of that an object of cursing, of contempt, and of hatred; while his father is deep in trouble, and the mother who bore him, another is more happy than she. But a man becomes a god<sup>1</sup> when he is chief of a tribe who has confidence in following him.

## X.

If thou humblest thyself in obeying a superior, thy conduct is wholly good before God. Knowing who ought to obey and who to command, do not lift up thy heart against this one. As thou knowest that in him is authority, be respectful toward him as is his right. Fortune comes only in accordance with his will, and has no law but his caprice; as for the one who . . . .<sup>2</sup> God who made him superior, turns away from him, and he is overthrown.

## XI.

Be active, during the time of thy existence, in doing more than is commanded. Do no wrong in the time of activity; he is blameworthy who wastes his hour. Do not lose the daily opportunity for the increase of that which thy house possesses. Activity produces riches, and riches do not last when it [activity] slackens.

## XII.

If thou art a wise man, train a son who will be well pleasing to God. If he adjusts his course to thy way and occupies himself in thine affairs as he should, do him all the good thou canst; he is thy son, a being attached to thee, that thy body has begotten. Do not separate thy heart from him . . . . (But) if he behaves badly and transgresses thy will,<sup>3</sup> if he rejects every word, if his mouth moves in wicked speech, strike him upon his mouth, such as it is.<sup>4</sup> Give a straightforward order to those who act badly, to him who is restless at heart; and he will not deviate from the direction, and there will be no opposition to interrupt thy course.

## XIII.

If thou art on guard, stand erect or remain sitting rather than to walk. Lay down this rule to thyself from the first moment: "Never go away, even when thy weariness makes itself felt." Beware of him who enters announcing that what he asks is secret; the countersign allows no such

<sup>1</sup>"It is one making himself to be God." This translation is uncertain.

<sup>2</sup>I have not risked a translation of this passage, because a study of the rhythm causes me to suppose that some words have been omitted. If I am not mistaken, half of a verse is wanting.

<sup>3</sup>"Thy will" or "thy counsels."

<sup>4</sup>We probably have here a sort of pun, and that the meaning is "strike right," "strike directly" (on his mouth or his face). The explanation which follows seems to say that with unruly subordinates one must give without hesitation precise and positive orders.



consideration, and all argument to the contrary is to be rejected. He is a god who penetrates into a place where there is no concession even to privileged persons.

## XIV.

If thou livest with people who show an extreme love for thee: "Breath of my heart, breath of my heart, where there is no remedy! What is said in thy heart, may it be realized by spontaneous growth! Sovereign Master, I follow thine advice. Thou art right without speaking. Thy body is full of strength, thy face is above thy neighbors."<sup>1</sup> If, then, thou art accustomed to this excess of flattery and it becomes an obstacle to thy desires, then thy feeling is to obey thy passions. But he who . . . . after his own caprice, his soul is . . . his body is. . . . While he who is master of his spirit is superior to him whom God has loaded with his gifts, the man who obeys his passion is in subjection to his wife (?).

## XV.

Declare thy line of conduct without reserve;<sup>2</sup> give thine advice in the council of thy lord; there are people who take all sides when they speak, so that, by not replying, they may not grieve the one who has made a statement, reasoning thus: "It is for the great to recognize the error; and when he shall raise his voice to combat the error, he will have nothing to reply, since I have spoken to say nothing."

## XVI.

If thou hast the position of leader prosecuting plans according to thy will,<sup>3</sup> do the best things which after days will remember; so that the word which multiplies flatteries, excites pride, and produces vanity, shall not succeed with thee.

## XVII.

If thou hast the position of umpire, listen to the discourse of the petitioner. Do not ill-treat him; that would discourage him. Do not say to him: "Thou hast already told that." Indulgence will encourage him to do that for which he has come. As for ill-using the complainant because he tells what happened at the moment when this wrong was done, instead of complaining of the wrong itself, do not allow that! The way to obtain a true explanation is to listen with kindness.

## XVIII.

If thou desirest to inspire respect in the house which thou dost enter, for instance in the house of a superior, of a friend, or of a person of consideration, wherever thou dost enter, beware of approaching the wife, for there is no good in what one does there. There is no prudence in indulging in that, and thousands of men are lost for the enjoyment of a moment short as a dream, while they gain death, in knowing her. It is a base disposition, that of the man who excites himself to such a deed; if he is moved to execute it, his mind abandons him. For he who lacks repugnance for this,—there is no reasoning with him.

<sup>1</sup>That is "thou art superior to those who surround thee."

<sup>2</sup>Or dissimulation.

<sup>3</sup>That is "having power to execute that which thou decidest."

## XIX.

If thou desirest that thy conduct be good and kept from all evil, beware of all fits of bad temper. This is a sad malady which leads to discord, and there is no more life at all for the one who falls into it. For it brings quarrels between fathers and mothers, as between brothers and sisters; it makes the wife and the husband abhor each other, it contains all wickedness, it encloses all injuries. When a man takes justice for his rule, walks in her ways, and dwells with her, there is no room left for bad temper.

## XX.

Do not give way to temper on account of what occurs around thee; do not scold ["translation uncertain"] except about thine (own) affairs. Do not be in a bad temper toward thy neighbors; a compliment to him who gives offense is better than rudeness. It is wrong for a man to get in a passion with neighbors so that he knows not how to manage his words. Where there is only a little difficulty he creates an affliction for himself at a time when he should be cool.

## XXI.

If thou art wise, take care of thy house; love thy wife purely. Fill her stomach, clothe her back; these are the cares (to give) to her body. Caress her, fulfil her desire, during the time of thine existence; it is a kindness which honors its master. Be not brutal; consideration will lead her better than force; her . . . <sup>1</sup> this is her breath, her aim, her gaze. This establishes her in thy house; if thou repellst her, it is an abyss. Open thine arms<sup>2</sup> to her for her arms; call her, show her thy love.

## XXII.

Treat well thy people, as it behooves thee; this is the duty of those whom God has favored. If anyone neglects to treat his people well, it is said: "He is a person. . . ."<sup>3</sup> As none may know the events that may come to pass to-morrow, he is a wise person in whose house the people are well treated. When devotion is to be shown it is the people themselves who say: "Come, come"; if good treatment has not left the place; if it has left, the people are wanting.

## XXIII.

Do not repeat an excess of language; do not hear it; it is something which has escaped a heated soul. If it is repeated, look, without hearing it, toward the ground; say nothing about it. Make him who talks with thee, who provokes to injustice, know what is right; do what is wise, let it prevail. Do justice to the abhorred of the law by unveiling it.

## XXIV.

If thou art a wise man, sitting in the council of thy lord, set thy thoughts toward that which is wise. Keep silence, rather than pour out

<sup>1</sup>Uncertain word. The reading even is doubtful.

<sup>2</sup>I give with reserve the explanation of these lines, in which are two words, which I do not surely understand, and one which I only know in an uncertain way.

<sup>3</sup>Perhaps "an execrable (?) person" in opposition to the words ending the preceding sentence.



thy words. When thou speakest, know what objections may be made to thee. To speak in council is an art, and speech is criticised more than all other work; it is contradiction which puts it to the proof.

## XXV.

If thou art powerful, pay respect to knowledge and calm speech. Command only to direct; to be absolute is to enter into evil. Let not thy heart exalt itself, nor let it be cast down. Make thine orders heard, and make thy replies understood; but speak without heat; let thy face be stern. As for the vivacity of a warm heart, temper it; the gentle man overcomes obstacles. The man who hurries all day long has not one good moment; but he who amuses himself all day long does not retain his house. Aim at the right point as (do) the pilots; while one sits down, another works, and applies himself to obeying the command.

## XXVI.

Do not disturb a great man; do not distract the attention of the busy man. His care is to accomplish his task, and he strips his body for love of the work. Love for the work they do brings men near to God. Therefore compose thy face, even in the midst of trouble, so that peace may be with thee, when agitation is with. . . . These are the people who succeed where they apply themselves.

## XXVII.

Teach men to render homage to the great man. If thou gatherest the harvest for him among men, return it in its entirety to its master, by whom thou dost exist. (But) the gift of affection is worth more than the offerings themselves with which thy back is covered. For what he receives from thee brings life to thy house, not to speak of the consideration which thou enjoyest, which thou wouldst preserve; it is by this means that he holds out a beneficent hand, and that with thee possession is added to possession. May the love that thou dost feel pass into the hearts of those who love thee; may the people become loving and obedient.

## XXVIII.

If thou art a son of one of the guard having in charge the public peace, execute thy orders without question and speak firmly. Do not replace what the instructor has said by that which thou believest to be his intention; the great use words as it pleases them. Thy part is to transmit, rather than to comment.

## XXIX.

If thou art wearied beyond bearing, if thou art tormented by someone who is in his right, put away from thee his visage, and think no more of it when he has ceased speaking to thee.

## XXX.

If thou art great after having been low, if thou art rich after having been straitened, when thou art at the head of the city, learn not to take advantage of thy having risen to the first rank; do not harden thy heart on

account of thine elevation; thou hast become only the steward of the goods belonging to God. Do not put behind thee the neighbor who is thine equal; be to him as a companion.

## XXXI.

Bow thy back before thy superior. Thou art attached to the house of the king; thy house is solid in its fortune, and thy profits are as is proper. Yet a man is annoyed by having an authority above himself, and he passes his life in being wearied by it.

Although this does not harm thy. . . . "Do not pillage the house of thy neighbors, do not take by force the goods which are beside thee." Do not exclaim against that which thou hearest, and do not be humiliated by it. A man must reflect, when he is fettered by it, that the annoyance of authority is also felt by his neighbor.

## XXXII.

["I am not sure of the general meaning of this precept." Virey.]

## XXXIII.

If thou aimest at having polished manners, do not question him whom thou meetest. Converse with him alone so as not to annoy him. Do not dispute with him until thou hast allowed him time to impregnate his mind with the subject of the conversation. If he displays his ignorance, and if he gives thee an opportunity to put him to shame, rather than that, treat him with consideration; do not keep pushing him on, do not . . . his words; do not reply in a crushing manner; do not finish him; do not worry his life out; for fear that he for his part will not recover, and that men will leave thee to the benefit of thy conversation.

## XXXIV.

Let thy face be bright during all the time of thy life. When one of those who entered carrying his products<sup>1</sup> comes out of the place of toll with a drawn face, that shows that his stomach is empty, and that the authorities are an abhorrence to him. May that never happen to thee; it is. . . .

## XXXV.

Take care of those who are faithful to thee, when thine affairs are depressed. Thy merit then is worth more than those who have done thee honor. His . . . this is what a man possesses absolutely. It is of more importance than his nobility; this is something which passes from one to another. The merit of the son of a man is advantageous to him, and that which he is really is worth more than the remembrance of what his father has been.

## XXXVI.

Distinguish the overseer, who directs, from the laborer; for manual labor is degrading, and inaction is honorable. If one is not at all in the evil way; what then takes place is the want of submission to (?) authority.

<sup>1</sup>Word for word, "the bread of division," probably the portion which each was obliged to remit as tax upon their harvest.



## XXXVII.

If thou takest a wife, do not. . . . May she be more content than any other of her fellow-citizens. She will be doubly bound if the chain is sweet to her. Do not repulse her; grant that which pleases her; it is when contented that she will value thy guidance.

## XXXVIII.

If thou heedest these things which I have told thee,<sup>1</sup> thy wisdom will be ever increasing. Although they are the means for reaching the *ma*,<sup>2</sup> and it is that which makes them precious, their memory would pass away from the mouth of man, but thanks to the beauty of their arrangement in verse, all these words shall be borne without alteration eternally upon this earth. They will make a canvas to be embellished; of it the great shall talk to instruct man. After having listened to it, he who has hearkened well to the word will become a master because he has hearkened to it.

May he succeed in gaining the highest rank, an excellent and enduring place, with no more to desire forever. By knowledge his course is assured, and by that he is happy upon the earth. The wise man, then, is satiated with his knowledge; he is great because of his merit. His tongue is at one with his mind; right are his lips when he speaks, his eyes when he looks, his ears when he hears. The advantage of his son is to do what is right without mistake.

## XXXIX.

To hearken is of benefit, then, to the son of him who has hearkened. A docile hearer is created because I have hearkened. It is well when he hearkens, well when he speaks; whoever has hearkened profits, and it is profitable to hearken to him who has hearkened. To hearken is worth more than all else, for it produces love, the possession doubly blessed. The son who receives the word of his father shall live long on account of it. God loves that man should hearken; if he does not hearken, he is abhorrent to God. The heart is his master when he hearkens or when he does not hearken; but in hearkening, his heart becomes a beneficent master to man. Harkening to the word, he loves what he hears, and to do what is said is pleasant. When a son hearkens to his father, it is a double joy to both, for when these things are told to him, the son is gentle toward his master. Harkening to him who has hearkened while this was told him, he engraves on his heart what is approved by his father, and thus the memory of it is preserved in the mouth of the living, who are upon the earth.

## XL.

When a son receives the word of his father, there is no error in all his plans. So instruct thy son that he shall be a teachable man whose wisdom shall be pleasant to the great. Let him direct his mouth according to that which has been told him; in the teachableness of a son is seen his wisdom. His conduct is perfect, while error carries away him who will not be taught; to-morrow knowledge shall uphold him, while the ignorant will be crushed.

<sup>1</sup>The author has finished the explanation of the wisdom of the ancients. He now speaks in his own name, in praise of the doctrine which he has repeated.

<sup>2</sup>The *ma* is "the true, the beautiful, the good."

## XLI.

As for the man without experience, who hearkens not, he does nothing at all. He seeks knowledge in ignorance, profit in injury; he commits all sorts of errors, seizing always whatever is the opposite of praiseworthy. Thus he lives only on the perishable. His food is the evil word that charms him. He lives every day on what the great know to be perishable; fleeing what is best for him, because of the many errors which are before him each day.

## XLII.

A son who hearkens is like a follower of Horus; he is happy, because he has hearkened. He grows, he attains consideration; he teaches the same lesson to his children. Let no man make changes in the precepts of his father; let the same precepts be his lessons to his children. "Surely," his children will say to him, "doing thy word works wonders."

Foster the *ma* [see § 38], the life of thy children. If teachers follow what is not right, surely the people who do not understand them will say the same, and, this repeated to the teachable, they will follow what is told. Then all the world will esteem them [these masters], and they will inspire the people with trust; but their glory does not last as long as they wish. Do not, then, take away one word from the established teaching, do not add one. [Comp. Deut. iv, 2; xii, 32.] Do not put one thing in the place of another; beware of uttering the ideas which germinate in thyself, but teach according to the words of the wise. Hearken, if thou wouldst abide in the mouth of those who will hearken to thy words, when thou hast risen to the position of teacher, that thy words may be on our lips . . . and that there may be a chair for thine arguments.

## XLIII.

May thy thoughts overflow, thy mouth be restrained; and thou shalt argue with the great. Agree with the way of thy master; make him say, "This is my son," so that those who hear this shall say, "Praise of him who has begotten this one." Consider when thou speakest; say only perfect things; and may the great who hear them say: "The issue of his lips is twice blessed."

## XLIV.

Do that which thy master tells thee. Doubly good is the precept of our father, from whose flesh we come forth. May what he tells us, be in our hearts; do for him more than he has said and satisfy him wholly. Surely a good son is one of the gifts of God, a son doing better than he has been told. For his master he does ["the *ma*," see § 38] what is right, throwing his whole heart into his ways.

By following these lessons I secure that thy body shall be in health, that the king shall be satisfied with thee in all things, and that thou shalt gain years of life without failures.

They have gained for me upon earth one hundred and ten years of life, with the gift of the favor of the king, among the first of those whose works have made them noble, doing the pleasure of the king in an honored place.

It is finished, from its beginning to its end, according to what is found in writing.



## Notes

EGYPT.—G. A. Reisner, commissioned by Mrs. Hearst to conduct excavations for the University of California, has explored four sites in upper Egypt. The first was an extensive necropolis of the predynastic period, on the eastern shore of the Nile, opposite the present Menshiye, near the village of El-Akhaiwa. In opposition to Petrie, who assumed that the graves of this period served for a second burial after decomposition of the body had taken place, and that at this burial the bones were carefully laid in order, Reisner has demonstrated that the latter is nowhere found to be the case. The bodies were placed in the tomb in a sitting posture. The dismembering of the skeleton was in every case done by the grave robbers who rifled the tombs. Reisner found only one intact grave containing dismembered remains. Here, beyond question, a second burial had taken place; but in this case the grave had probably been ransacked soon after burial, the robbery had been discovered, and the relatives had reverently given the remains another burial. At Akhaiwa, Reisner also explored a necropolis of the later period (twentieth to thirtieth dynasties).

The exploration of the very ancient cemeteries of Ballas, in which Petrie likewise made excavations during the winter of 1894-95, has led to the same results regarding burial as those just stated. The third necropolis explored by Reisner, that of Naga-Der, opposite Girge, is of somewhat more recent date. Here, alongside of graves of the earliest period, are also found some dating from the old and middle kingdoms; and in these many interesting finds were made—among other things, beautiful gold jewelry.

At Der-el-Ballas, on the western shore of the Nile, nearly opposite Quft, Reisner also carefully explored the ruins of a city with houses and palaces dating from the time of the middle and new kingdoms, and made important disclosures regarding the location of the houses, which were built of unburnt tile. From this ruined city also comes a large and well-preserved papyrus containing a medical handbook. It is similar to the well-known papyrus of Ebers, but contains much that is new. It probably dates from the beginning of the new kingdom, about 1600 B.C.

According to Dr. Reisner, "The period ending with the great pyramids (fourth dynasty) brought forth almost all the social, political, architectural and artistic elements of later Egyptian life. The Egyptians' point of view of material things, of life, of death and of the gods never changed until the great breaking up caused by the Greek conquest of the world. Their technical skill—perhaps the most prominent Egyptian characteristic—was never surpassed in later times.

"The process of fixing the forms and customs of each period beyond dispute is the present work of Egyptian archaeology, and almost every year some chapter of Egyptian history has to be rewritten on the basis of the new material thus acquired. It has fallen to our lot to collect the most abundant material of the period from the fifth to the eighth dynasties.

"The most important characteristic of the period from the fifth to the eighth dynasties is the introduction of wheel-turned pottery. Pottery again became more common than stoneware, and Egyptian skill applied again to the same material

in the twelfth to the eighteenth dynasties produced highly polished and beautiful painted wares.

"Mummification was introduced apparently about the fifth dynasty. It was the attempt to preserve the body from decay by using natural oils, balsams and bitumen, and by carefully wrapping the body in linen cloth dipped in salt water, oil or bitumen. The earlier attempts were rather unsuccessful until bitumen or pitch came into use. Pitch was certainly not commonly used until the twelfth dynasty, and then only in New Egypt. In all periods, it must be remembered, there were many persons who could not afford mummification.

"During the period from the fifth to the eighth dynasty there were considerable changes in the styles of tombs used. The long pit with the corner chamber, the end chamber, the side chamber or the two side chambers, gradually replaced the square pit, step by step, as the extended burial gradually replaced contracted burial.

"Animal forms were used as early as the prehistoric period as charms. In the late prehistoric and in the first dynastic period small figures of stone representing flies, scorpions, crocodiles and a few other animals occur, but they are not generally placed with the burials. In the fifth dynasty, however, they have come into common use and continue so down to the latest Roman period. Some of the materials used were crystal, blue porcelain, ivory, shell, copper and gold. They are usually worn on a string about the neck.

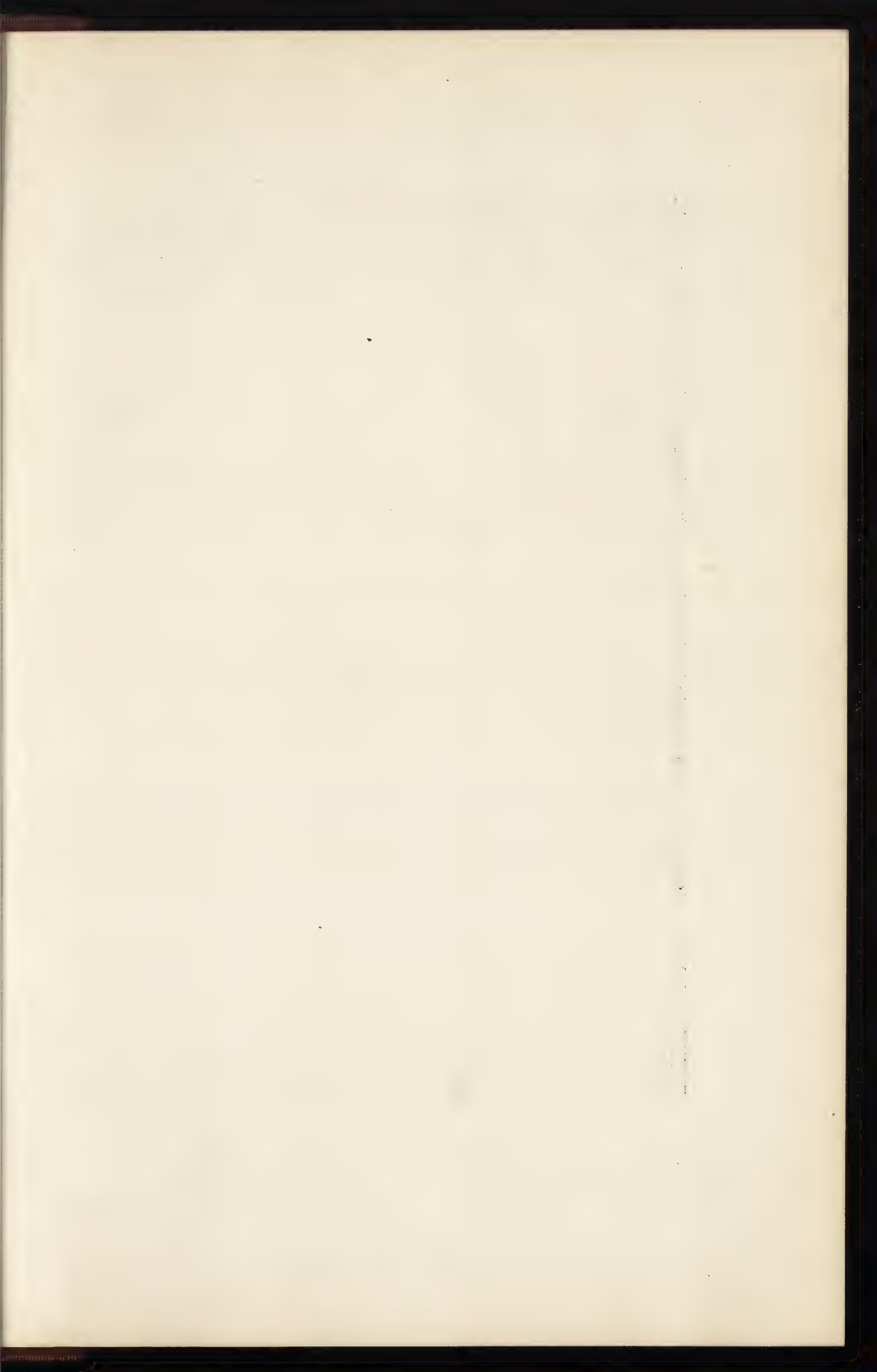
"Politically the period was plainly one of considerable prosperity, and under a strong, centralized government. For the most part we know only the names and the lengths of their reigns—things important to the chronological skeleton."

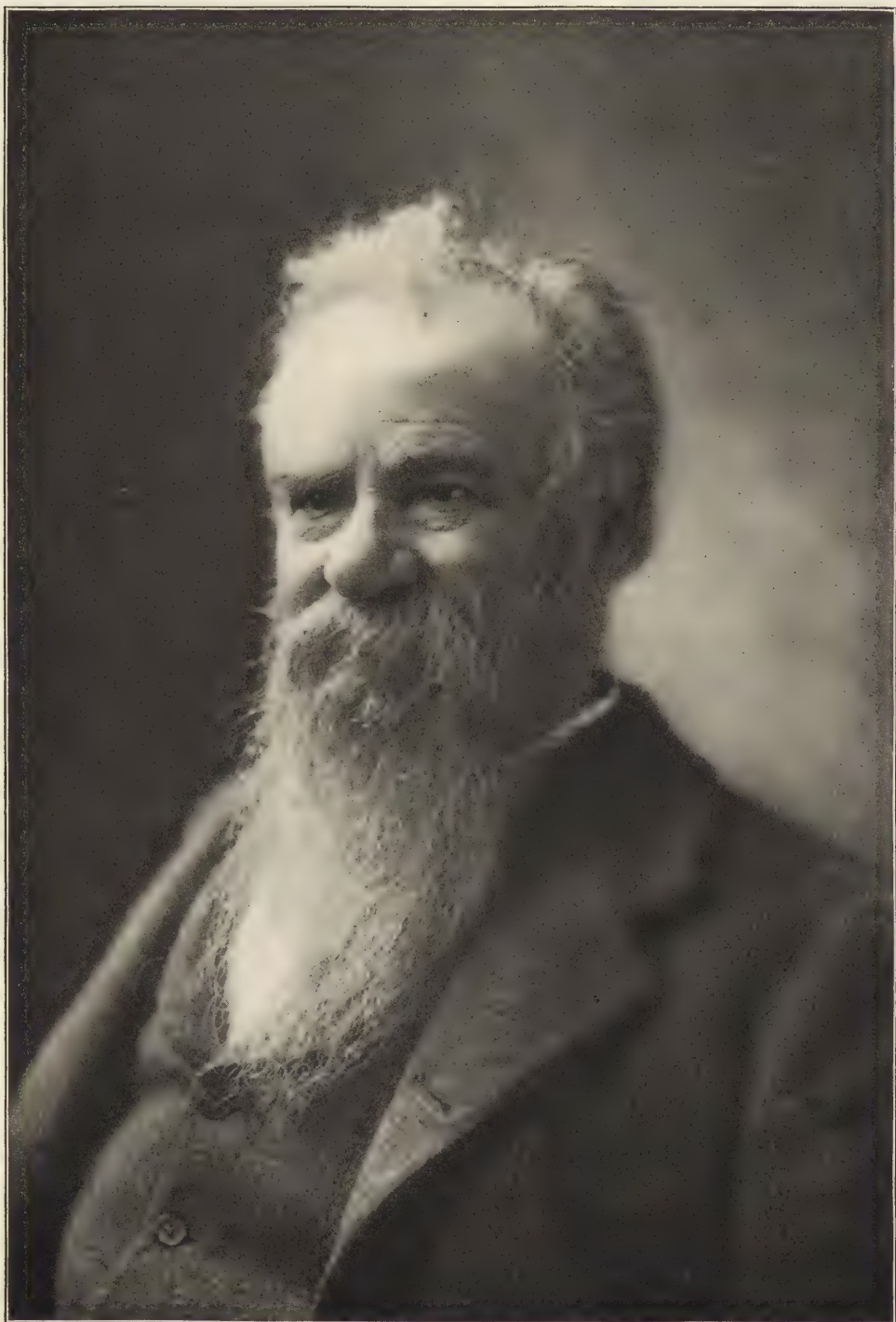
**THEBES.**—The palace of Amenophis III at Malgata, discovered by Grébaut nearly twenty years ago and exposed to pillage since that time, is being systematically excavated by Newberry and Titus. The plan of the palace seems to have been quite similar to that of the palace which Amenophis IV erected for himself in Tel-el-Amarna, and which was several years ago explored by Petrie. In the palace of Amenophis III the rooms were likewise adorned by beautifully decorated stucco floors, and the roofs were supported by columns. The walls were embellished with stuccowork, the representations in part setting forth everyday life. In addition to state rooms, working rooms, the kitchen, with its storage closets, and a faïence factory, in which the different amulets and ornaments were made, can also be distinguished. Not far from the palace was found an altar, built of tile, and at one time probably wainscoted with slabs of stone. It was quite similar to the one in the temple of Der-el-Bahri, and this one was certainly dedicated to the sun god. As the altars of ancient Israel most likely also had a similar form, these remains of the old Egyptian cultus have an especial biblical interest.

**THE PHARAOH OF THE EXODUS.**—The American Egyptologist, Groff, has demonstrated that the mummy regarded by Loret as that of Amenophis IV is really that of Meremptah, the Pharaoh of Exodus. The mummy was found, with others, at Thebes in 1898. Its discovery proves that the Pharaoh was not lost with his troops in the Red Sea.

**ABYDOS.**—Professor W. M. Flinders Petrie is again at work on the site of the ancient sacred city of Abydos. After having, during the past two years, examined the royal tombs of the prehistoric period and of the first two dynasties, he is now excavating in the ruins of the ancient city itself, which was only hastily explored by Mariette. Here, near the village of El-Kherbe, is found the sanctuary of Osiris, the god of the dead, unfortunately in a very imperfect condition, but in which important inscriptions from the sixth and twelfth dynasties, as well as from the beginning of the new empire (about 1600 B.C.), have already been brought to light.







MAJOR JOHN WESLEY POWELL



# RECORDS <sup>OF</sup> THE PAST

NOVEMBER, 1902

VOL. I



PART XI

## JOHN WESLEY POWELL

BY REV. HENRY MASON BAUM, D.C.L.

ONE of the most prominent men connected with scientific historical research in the United States, passed to his eternal rest September 23, 1902. It was through reading accounts of Major Powell's various expeditions to the Southwest, following his marvelous voyage, for such it may be called, through the Grand Canyon of the Colorado, that the Editor of RECORDS OF THE PAST became interested in the antiquities of that region.

John Wesley Powell was born in Mount Morris, New York, March 24, 1834. His early life was passed on his father's farm and his early education was obtained in the country schoolhouse. Later he became a school teacher. While still a mere youth he developed a love for the study of geology and natural history. His first expeditions as an explorer were made along the Illinois, Ohio and Mississippi rivers, where he had an opportunity to study the Mound Builders and to collect specimens of their handiwork.

At the outbreak of the Civil war he enlisted in the Union Army and worked his way up until he was made Lieutenant-colonel of his regiment.\* In the battle of Shiloh he lost his right arm. This misfortune would have deterred most men from the work of exploration, in which he spent many years of his life.

Major Powell first came prominently before the public when he explored the Grand Canyon of the Colorado in 1868-69. The task was one to have deterred the most vigorous man in full possession of his limbs. During his trip through the Grand Canyon he was accompanied by Mr. Jack Hillers, the celebrated photographer and colorist whose magnificent photographs of the prehistoric ruins and natural scenery of this country have brought vividly before the people of America and Europe, the natural beauties and historic treasures of our country. It was another case of a Stephens and his faithful and accomplished artist, Chatterworth.

\*Colonel Powell always preferred to have the title of "Major" to that of "Colonel."

An incident occurred in the Grand Canyon that well illustrates Major Powell's devotion to those whom he loved and trusted. At one time when in the Grand Canyon Mr. Hiller's prompt aid saved the life of Major Powell. This was the beginning of a devoted friendship which was mutual and was only terminated by the death of Major Powell.

In 1879 Congress created the Bureau of Ethnology, largely as we believe, to enable Major Powell to carry out the plans he had for the government to conduct scientific research. Major Powell became its first Director and remained such until his death. He is now succeeded by the distinguished scientist, Prof. William Henry Holmes.

It would require more space than can be given in a brief biographical notice to give an idea of the great service rendered to scientific research by Major Powell, as Director of the Bureau of Ethnology. His organization of the Bureau was at once so complete, and his plans for future work so well formed, that, in 1881, he was made Director of the United States Geological Survey. He filled both positions with credit to himself and to his country, for 13 years. The 20 odd volumes published by the Bureau of Ethnology will remain, for all time, a noble monument to Major Powell,—he was the *Director from first to last*, in fact as well as name, and every volume bears the imprint of his personality.

He was the pioneer in the movement for irrigating the arid lands of the Southwest, and had his counsels been heeded years ago, the condition of the American Indian would be quite different from what it is to-day. If one-twentieth of the money that has been expended on the Indians had been devoted to irrigating parts of their reservations, the Indian to-day would be a self-supporting farmer and a useful citizen of the United States. The policy of the Government has been a bad one. The Indians have been fenced in on reservations where the most successful eastern farmer could not maintain himself for a year. The result has been disastrous to the Indian and to the National Treasury. Colonel Powell foresaw all this and tried in every way in his power to avert the misfortune which he knew would inevitably follow, as a natural result of the policy of the Government toward the Indian.

During the later years of his life he became interested in some of the great problems closely allied with the work of his past life. He was engaged in working out these problems when death brought to an end a notable and memorable life in the field of American scientific historical research.



PUEBLO INDIANS OF TAOS, NEW MEXICO



## THE BEHISTUN INSCRIPTION\*

BY GENERAL HENRY C. RAWLINSON

THE scientific world of England, which has taken the lead in so many other branches of palæographic study, has been content to leave the investigation of the Cuneiform Inscriptions almost entirely to Continental scholars; and, which is still more unusual in the history of Eastern archæology, the origin and progress of this investigation, and the results that have been obtained from it, appear to be but imperfectly known among us. Individuals doubtless of all countries, whether Englishmen or foreigners, engaged in the study of Oriental antiquities, have followed with a curious eye the successive discoveries that have been made; but general attention, or, at any rate, an attention commensurate with the value of the discoveries, has not been hitherto in England directed to the subject; and if I were to take up the inquiry, therefore, at the point where Professor Lassen has left it, interpretations which would satisfy the criticism of France and Germany might be received in London with extreme suspicion. This circumstance has suggested the propriety of adopting a more extended and elaborate form of introduction to a Memoir on the Cuneiform Inscriptions, than the present advanced stage of the inquiry can be considered rigidly to demand. In a study, indeed, of which the value depends entirely on the authenticity, and of which the authenticity can alone be verified by the constant and consentient results of a cautious and severe analysis, it is obviously better to err on the side of prolixity than of omission. A defective or imperfect link will destroy the integrity of the whole chain of evidence, while accumulative proofs, although they may encumber and perhaps disfigure the argument, will at the same time but contribute to its strength.

But if I thus commence with the elements of the inquiry, and travel over ground already thoroughly explored, I foresee considerable difficulty in discriminating between those points of evidence which I have derived from the labors of others and those which are original to my own researches. Having been engaged, indeed, upon the Cuneiform Inscriptions of Persia at intervals during the last 10 years, and having in the course of my studies perused the works of various Continental writers upon the subject, it will be impossible, in stating the results at which I have arrived, that I should express the exact extent of my obligations to each author whom I may have consulted during the progress of the inquiry. As far as

\*The decipherment of the Cuneiform language was equal if not of greater importance to the world than that of the hieroglyphic language of Egypt. On page 89 of this volume will be found an article giving the history of the Rosetta stone and its translation. As stated there, it was the key that unlocked the mysteries of ancient Egypt, and the Behistun Inscription bears the same relation to the Cuneiform language of the Tigro-Euphrates Valley. The credit of finding the key of the Cuneiform language belongs largely to General Rawlinson. The history of the long search for this key will be of great interest for all time to students of history. We have, therefore, deemed it expedient to give the first chapter of his Memoir, together with a translation of the Inscription as it was published by General Rawlinson in the *Journal of the Royal Asiatic Society* in 1847. [See *Journal of the Royal Asiatic Society*, vol. x, 1847.]—ED.



GENERAL VIEW OF THE SCULPTURES AT BEHISTUN, TAKEN FROM THE FOOT OF THE ROCK



the public judgment is concerned in awarding to competitors the prize of originality, there can be little room either for confusion or embarrassment; for priority of announcement is held, I believe, in all cases to decide the question of priority of discovery. Individually also, so far from desiring to impugn the merits, or to contest the rights of others, I should be well content to rest my present claims on the novelty and interest of my translations; and if there must be rivalry in a field which is so ample, I would desire to take rank only as an original discoverer, according to the success which may attend my efforts to decipher the Median and Babylonian inscriptions. But there are other interests at stake. It may be expected of me that, having engaged, in the year 1839, to publish, in the *Transactions of the Royal Asiatic Society of London*, an illustrative Memoir on the Cuneiform Inscriptions of Persia, I should explain the reasons which have caused the engagement to remain unredeemed until the present time; and if these reasons be complete and satisfactory, the Society may perhaps consider that, as a *précis* of the contents of a large portion of the Behistun Inscriptions, differing in no material respect from the analytical translations which are now submitted, was in the year 1839 actually read before them, they may be entitled to claim for the present Memoir the same degree of originality which would have been incontestably conceded to it, had it appeared in the *Transactions* when it was first announced for publication.

Such are the considerations which induce me to recur to a preliminary notice that was written in the year 1839 for the Memoir I was then engaged in preparing for the press. In this introduction, and in the notes which a more extended acquaintance with the subject has now enabled me to add to it, will be found an outline of the origin and early course of discovery, as well as the share I took, while the inquiry was yet in its infancy, in advancing its progress and improvement. A few supplementary remarks will then explain the reasons which compelled me for a period to abandon the study, and I shall close the introduction with a brief exposition of a subsequent research upon the Continent, of the facilities which I have enjoyed for becoming acquainted with that research, and from the assistance which I have derived from it in remodeling the present Memoir, and in giving all available extension and accuracy to the interpretation of the Cuneiform Inscriptions.

<sup>1</sup>It would be interesting, perhaps, to the lovers of Oriental literature, if I could open the present Memoir with a detailed account of the progress of cuneiform discovery, from the time when Professor Grotefend first deciphered the names of Cyrus, Xerxes, and Darius, to the highly improved condition which the inquiry now exhibits; but my long absence from Europe, where the researches of Orientalists have been thus gradually perfecting the system of interpretation, while it has prevented me from applying to my own labors the current improvements of the day, has also rendered me quite incompetent to discriminate the dates and forms under which these improvements have been given to the world.<sup>2</sup> The table,<sup>3</sup> however, in which I have arranged the different alphabetical systems adopted both

<sup>1</sup>The extract which commences at this place is copied verbatim from the MS. of 1839, but the marginal notes are entirely new.

<sup>2</sup>The present marginal notes will be found in a measure to supply this deficiency.

<sup>3</sup>See the alphabetical table heading Chapter III. I have now added to it such improvements and alterations as have been adopted on the Continent since the above was written.

by Continental students and by myself, will give a general view of their relative conditions of accuracy, and, supposing the correctness of my own alphabet to be verified by the test of my translations, it will also show that the progress of discovery has kept pace pretty uniformly with the progress of inquiry.

Professor Grotefend has certainly the credit of being the first who opened a gallery into this rich treasure house of antiquity.<sup>1</sup> In deciphering the names of Cyrus, Darius, Xerxes, and Hystaspes, he obtained the true determination of nearly a third of the entire alphabet, and thus at once supplied a sure and ample basis for further research. M. Saint Martin, who resumed the inquiry on its being abandoned by the German Professor, improved but little on the labors of his predecessors<sup>2</sup>; but shortly afterward Professor Rask discovered the two characters representing M and N, which led to several most important verifications.<sup>3</sup> The Memoir of M. Burnouf on the two Cuneiform Inscriptions of Hamadan, published in 1836, added several discoveries of interest,<sup>4</sup> and the recent researches of Professor Lassen, supplying an identification of at least 12 characters, which had been mistaken by all his predecessors, may entitle him almost to contest with Professor Grotefend the palm of alphabetical discovery.<sup>5</sup>

In a very few cases only, which may be seen on a reference to the comparative table, have I indeed found occasion to differ from him as to the phonetic power of the characters, and in some of the cases even, owing to the limited field of inquiry, I have little more than conjecture to guide me.

<sup>1</sup>Professor Grotefend's first discovery was announced in the *Literary Gazette* of Göttingen in the year 1802, but the Memoir upon the subject, which was at the same time read before the Royal Society of that place, was never published. In 1805 there appeared a further exposition of his views which, however, rather tended to discredit than to verify his original discovery. [See Klaproth's *Aperçu de l'Origine des diverses Ecritures*, p. 62.] Several papers were published by the Professor in the 4, 5 and 6 volumes of the *Mines de l'Orient* [1814-16], but they regarded the Babylonian rather than the Persian writing. The first complete account of his system of interpretation was given in the Appendix to the third edition of Heeren's *Ideen über die Politik, den Verkehr, und den Handel der vornehmsten Völker der Alte Welt*; Göttingen, 1815; an account which was enlarged and illustrated in the fourth edition of that excellent work, published in 1825. [See Heeren's *Researches*, published by Talboys in 1833, vol. ii, p. 313.] The Baron de Sacy reviewed Professor Grotefend's labors in a letter to Mr. Millin, which was published in the *Magasin Encyclopédique*, année viii, tome v, p. 438. An account of Professor Grotefend's discoveries was communicated to the Bombay Literary Society, in 1818, and was published in the second volume of their *Transactions*.

<sup>2</sup>Saint Martin appears to have first turned his attention to the Cuneiform Inscriptions of Persia in 1821 or 1822. A Memoir was read by him on the subject before the Asiatic Society of Paris in the course of the latter year, and an extract of this paper was published at Paris in February, 1823. [See *Journal Asiatique*, tome ii, p. 59.] The entire dissertation appeared, I believe, subsequently in the *Mem. de l'Acad. des. Insc.*, ii series, tome xii, 2 partie, p. 113. His matured opinions, however, which he considered *à l'abri de la Critique* [see Burnouf's *Mémoire sur deux Inscriptions Cunéiformes*, p. 2], are only to be found in Klaproth's *Aperçu de l'Origine des diverses Ecritures*, a volume of which 50 copies were alone printed, and which appeared in Paris in the summer of 1832,—almost at the exact period of Saint Martin's early and lamented death. [See Klaproth's *Aperçu*, pp. 65, 66, 67.]

<sup>3</sup>For the discoveries of Professor Rask, see *Ueber das Alter und die Echtheit der Zend-Sprache und des Zend-Avesta*, etc., übersetzt von F. H. von der Hagen, p. 28. Berlin, 1826.

<sup>4</sup>M. Burnouf's elaborate Memoir was published in June, 1836. It is entitled *Mémoire sur deux Inscriptions Cunéiformes, trouvés pres d'Hamadan*. The comparative table in Chapter III will show the merit of his alphabet.

<sup>5</sup>Professor Lassen's work on the Inscriptions, entitled *Die Alt-Persischen Keil-Inschriften von Persepolis*, was published at Bonn, in May, 1836. It may be considered, therefore, to have appeared simultaneously with the Memoir of Burnouf.



But in thus tracing the outlines of the discovery, as far as they are at present known to me, and in thus disclaiming any pretension to originality, as far as regards the alphabet which I have finally decided on adopting, I think it due myself to speak briefly and distinctly, how far I am indebted for my knowledge to the Cuneiform character and of the language of the inscriptions to the labors of the Continental students, which have preceded the present publication. It was in the year 1835 that I first undertook the investigation of the Cuneiform character; I was at that time only aware that Professor Grotefend had deciphered some of the names of the early sovereigns of the house of Achæmenes, but in my isolated position at Kermanshah, on the western frontier of Persia, I could neither obtain a copy of his alphabet, nor could I discover what particular inscriptions he had examined. The first materials which I submitted to analysis were the sculptured tablets of Hamadan, carefully and accurately copied by myself upon the spot, and I afterward found that I had thus, by a singular accident, selected the most favorable inscriptions of the class which existed in all Persia for resolving the difficulties of an unknown character, and which had, in fact, supplied Professor Grotefend with the elements of his original discovery.\*

These tablets consist of two trilingual inscriptions, engraved by Darius Hystaspes, and by his son, Xerxes; they commence with the same invocation to Ormuzd (with the exception of a single epithet omitted in the tablet of Darius), they contain the same enumeration of the royal titles, and the same statement of paternity and family; and, in fact, they are identical, except in the names of the kings and in those of their respective fathers. When I proceeded, therefore, to compare and interline the two inscriptions (or rather, the Persian columns of the two inscriptions; for as the compartments exhibiting the inscription in the Persian language occupied the principal place in the tablets, and were engraved in the least complicated of the three classes of Cuneiform writing, they were naturally first submitted to examination), I found that the characters coincided throughout, except in certain particular groups, and it was only reasonable to suppose that the groups which were thus brought out and individualized must represent proper names. I further remarked, that there were but three of these distinct groups in the two inscriptions; for the group which occupied the second place in one inscription, and which, from its position, suggested the idea of its representing the name of the father of the king who was there commemorated, corresponded with the group which occupied the first place in the other inscription, and thus not only served determinately to connect the two inscriptions together, but, assuming the groups to represent proper names, appeared also to indicate a genealogical succession. The natural inference was that in these 3 groups of characters, I had obtained the

\*This is incorrect. Professor Grotefend founded his system of interpretation on analysis of two short inscriptions at Persepolis, very accurately copied by Niebuhr. [Vol. ii, Tab. 24, B and G.] The process by which the Professor arrived at the identification of the character is very elaborately described in his amended paper, published in 1825. [See Heeren's *Researches*, English translation, vol. ii, pp. 332-346.] The inscriptions of Hamadan, though frequently copied, were, I believe, first published in M. Burnouf's *Memoir* of 1836. They consist exclusively of the introductory autographic formulary which is usually followed at Persepolis by a prayer invoking the protection of Ormuzd and his angels. This formulary will be found 11 times repeated, with unimportant variations, in the *Zusammenstellung der Inschriften*, appended to the *Memoir* published last year by Professor Lassen, in his *Magazine*, entitled *Zeitschrift für die Kunde des Morgenlandes*. Bonn.

proper names belonging to three consecutive generations of the Persian monarchy; and it so happened that the first three names of Hystaspes, Darius and Xerxes, which I applied at hazard to the 3 groups, according to the succession, proved to answer in all respects satisfactorily, and were, in fact, the true identifications.<sup>1</sup>

It would be fatiguing to detail the gradual progress which I made in the inquiry during the ensuing year. The collation of the first two paragraphs of the great Behistun Inscription with the tablets of Elwend supplied me, in addition to the names of Hystaspes, Darius and Xerxes, with the native forms of Arsames, Ariaramnes, Teispes, Achæmenes, and Persia, and with a few old words, regarding which, however, I was not very confident, and thus enabled me to construct an alphabet which assigned the same determinate values to 18 characters that I will retain after 3 years of further investigation.<sup>2</sup>

During a residence at Teheran in the autumn of 1836, I had first an opportunity of becoming acquainted with the labors of Grotefend and Saint Martin. In Heeren's *Ideen*,<sup>3</sup> and in Klaproth's *Aperçu de l'Origine des diverses Ecritures*, I found the Cuneiform alphabets and translations which had been adopted in Germany and France; but far from deriving any assistance from either of these sources, I could not doubt that my knowledge of the character, verified by its application to many names which had not come under the observation of Grotefend and Saint Martin, was much in advance of their respective, and in some measure conflicting, systems of interpretation. As there were many letters, however, regarding which I was still in doubt, and as I had made very little progress in the language of the inscriptions, I deferred the announcement of my discoveries, until I was in a better condition to turn them to account.

In the year 1837, I copied all the other paragraphs of the great Behistun Inscription that form the subject of the present Memoir,<sup>4</sup> and during the winter of that year, while I was still under the impression that Cuneiform discovery in Europe was in the same imperfect state in which it had been left at the period of Saint Martin's decease, I forwarded to the Royal Asiatic Society my translation of the two first paragraphs of the Behistun inscrip-

<sup>1</sup>The names identified by Professor Grotefend in the Persepolitan Inscriptions were the same as those which I deciphered at Hamadan, and the process by which he arrived at their identification was nearly similar to that which is here detailed.

<sup>2</sup>I am neither able, nor is it of any consequence after the lapse of so many years, to describe the means by which I ascertained the power of each particular letter, or to discriminate the respective dates of the discoveries. I follow the text of 1839, and have no doubt that at that period I could have explained the manner in which I had identified these 18 characters before I met with the alphabets of Grotefend and Saint Martin.

<sup>3</sup>It was the German edition of 1815 which I then consulted. The amended paper of Professor Grotefend, which appeared in the edition of 1825, contains little or nothing of alphabetical modification, but it is worthy of remark that of the six translations which are found in the earlier essay, two alone are admitted into the later. It may be presumed, accordingly, that during the period which intervened between the two editions, the Professor had been led to mistrust, in a great measure, the applicability of his method of translation. His alphabet exhibits a correct identification of 18 letters out of the 30 to which he assigned equivalents. Saint Martin endeavored to construct an alphabet of 39 characters; 12 of these he considered doubtful, 10 he identified correctly, of 17 his readings were erroneous.

<sup>4</sup>This must be understood to include the entire first column; the opening paragraph of the second; ten paragraphs of the third column, and four of the detached inscriptions. I was then of opinion that the mutilation and inaccessibility of the sculpture rendered further transcription impossible, but I have since succeeded in recovering the whole of the record, with the exception of a few paragraphs at the foot of the tablet.



tion, which recorded the titles and genealogy of Darius Hystaspes. It is important to observe that these paragraphs would have been wholly inexplicable, according to the systems of interpretation adopted either by Grotefend or Saint Martin; and yet the original French and German alphabets were the only extraneous sources of information which, up to that period, I had been enabled to consult.<sup>1</sup> It was not, indeed, until the receipt of the letters which had been sent to me from London and Paris, in answer to my communication to the Royal Asiatic Society, that I was made acquainted even with the fact of the inquiry having been resumed by the Orientalists of Europe, and a still further period elapsed before I learned details of the progress that had been made upon the Continent in deciphering the inscriptions simultaneously with my own researches in Persia. The Memoir of M. Burnouf on the inscriptions of Hamadan, which were forwarded to me by the learned author, and which reached me at Teheran in the summer of 1838, showed me that I had been anticipated in the announcement of many of the improvements that I had made on the system of M. Saint Martin, but I still found several essential points of difference between the Paris alphabet and that which I had formed from writing at Behistun, and my observations on a very few of these points of difference I at once submitted to M. Burnouf, through the Secretary of the Royal Asiatic Society of London. The materials with which I had hitherto worked were far from being complete. The inscriptions which I had copied at Hamadan and Behistun supplied my only means of alphabetical analysis, and the researches of Anquetil du Perron, together with a few Zend MSS. obtained in Persia, and interpreted for me by an ignorant priest of Yezd, were my only guides in acquiring a knowledge of the ancient language of the country. In the autumn, however, of 1838 I was in a condition to prosecute the inquiry on a far more extended and satisfactory scale. The admirable commentary on the Yaçna, by M. Burnouf,<sup>2</sup> was transmitted to me by Dr. Mohl, of Paris, and I there for the first time found the language of the Zend-Avesta critically analyzed, and its orthographical and grammatical structure clearly and scientifically developed. To this work I owe in a great measure the success of my translations; for although I conjecture the Zend to be a later language than that of the inscriptions, upon the débris of which, indeed, it was probably refined and systematized, yet I believe it to approach nearer to the Persian of the ante-Alexandrian ages than any other dialect of the family, except the Vedic Sanskrit, and that is available to modern research. At the same time, also, that I acquired through the luminous critique of M. Burnouf an insight into the peculiarities of Zend expression, and by this means obtained a general knowledge of

<sup>1</sup>I have no copy at hand to which I can refer in order to test the alphabetical accuracy of this specimen of my early labors; it was unquestionably faulty, but the names were at any rate correctly identified, and the construction of the original was preserved throughout. Professor Lassen has given a reprint of these paragraphs in the Roman character, in his recent Memoir, p. 164, and has been misled in several passages by the conjectural restorations as well as by the inaccuracies of the original. The identifications of the five following essential characters were certainly at this period original to my own researches.

<sup>2</sup>The two first parts of this elaborate work were published in 1833-35. It may be considered indispensable to all inquiries, which have for their object the elucidation of Persian antiquities, but at the same time the want of an index greatly impairs its utility as a mere manual of reference. When the talented author can command sufficient leisure to enable him to complete his undertaking, he will, no doubt, supply the desiderated index, which, as far as Zend vocables are concerned, will answer all the purposes of a grammar and a dictionary.

the grammatical structure of the language of the inscriptions, I had the good fortune to procure copies of the Persepolitan tablets which had been published by Niebuhr, LeBrun, and Porter, and which had hitherto formed the chief basis of Continental study. The enumeration of the provinces tributary to Darius Hystaspes I found to be in greater detail, and in a far better state of preservation in the Persepolitan inscription,\* than in the corresponding list which I had obtained at Behistun, and with this important help I was soon afterward able to complete the alphabet which I have employed in the present translations. The names of *Gádara* and *Asagarta*, both of which were defective in the Behistun inscription, supplied me with the power of G for character which in my previous communication to M. Burnouf I had conjectured to represent the compound articulation of *st* (in preference to the value proposed by him of *û*), and the name of *Sughda*, also obliterated at Behistun, verified the value of *gh*, which had been assigned by M. Burnouf to a difficult character which I had called in question on insufficient grounds. A number of other improvements followed on this accumulation of materials, and in the winter of the last year, before I left Persia, the alphabet which I had decided on adopting exhibited almost the same appearance that it does at present.

On my arrival at Bagdad during the present year I deferred the completion of my translations, and of the Memoir by which I designed to establish and explain them, until I obtained books from England, which might enable me to study with more care the peculiarities of Sanskrit grammar. [It was at this period that I received through the Vice-President of the Royal Asiatic Society, a letter from Professor Lassen, containing a précis of his last improved system of interpretation, and the Bonn alphabet I recognized at once to be infinitely superior to any other that had previously fallen under my observation. The Professor's views, indeed, coincided in all essential points with my own, and since I have been enabled, with the help of Sanskrit and Zend affinities, to analyze nearly every word of the Cuneiform inscriptions hitherto copied in Persia, and thus to verify the alphabetical power of almost every Cuneiform character, I have found the more reason to admire the skill of Professor Lassen, who with such very limited materials as were alone at his disposal in Europe, has still arrived at results so remarkably correct. The close approximation of my own alphabet to that adopted by Professor Lassen, will be apparent on a reference to the comparative table, and although in point of fact, the Professor's labors have been of no further assistance to me than in adding one new character to my alphabet, and in confirming opinions which were sometimes conjectural, and which generally required verification, yet as the improvements which his system of interpretation makes upon the alphabet employed by M. Burnouf appears to have preceded not only the announcement, but the adoption of my own views, I cannot pretend to contest the priority of alphabetical discovery. While employed in writing the present Memoir, I

\*This inscription occurs on the southern wall of the great platform at Persepolis. It was copied and published by Niebuhr [see *Voyage en Arabie*, etc., tome ii, pl. 31, inscr. I] and by Ker Porter [*Travels in Georgia*, etc., vol. D, pl. iv, a], and the geographical names which it contains were elaborately examined by M. Burnouf and Professor Lassen, in their respective Memoirs of 1836. The copy, however, which was made by Mr. Westergaard in 1843, and which was published with an amended translation by Mr. Lassen in his Magazine of last year [see *Zeitschrift*, etc., p. 175], is infinitely more correct than either of the other transcripts.



have had further opportunities of examining the Persepolitan inscriptions of Mr. Rich, and the Persian inscription of Xerxes which is found at Van<sup>1</sup>; and I have also in the pages of the *Journal Asiatique* been introduced to a better knowledge of the Pehlevi, by Dr. Müller,<sup>2</sup> and I have obtained some acquaintance with Professor Lassen's translations, from the perusal of one of the critical notices of M. Jacquet.

Having thus briefly described the progress of my Cuneiform studies during the last 10 years, and having explained the means by which I have been enabled to complete my alphabet, I have now to make a few particular remarks on the translations. This branch of the study although depending upon, and necessarily following the correct determination of the characters, is, of course, the only really valuable part of the inquiry. It is in fact the harvest springing from the previous cultivation of a rugged soil, and as far as I am aware, it has been hitherto but poorly reaped.

The translations of Professor Grotefend and of Saint Martin are altogether erroneous and merit no attention whatever.<sup>3</sup> The Memoir of M. Burnouf on the inscriptions of Hamadan is confined to the illustration of 20 short lines of writing, containing an invocation to Ormuzd, a few proper names, and a bare enumeration of royal titles. Some of the grammatical peculiarities are, it is true, from their identity with similar formations in Zend, correctly developed; but the nature of the inscriptions has necessarily rendered the labors of the Paris Secretary, ample and erudite as they are, deficient in historical interest; and the faulty condition of his alphabet has, moreover, led him into several important errors of translation. His incidental examination of the geographical names contained in one of Niebuhr's Persepolitan inscriptions constitutes by far the most interesting portion of his researches; yet in a list which exhibits the titles of 24 of the most celebrated nations of ancient Asia, he has correctly deciphered 10 only of the names.<sup>4</sup>

As to Professor Lassen's translations I have no means of judging, except from the specimen which he has sent me of his system of interpretation applied to Niebuhr's geographical inscription, and from M. Jacquet's critique on the same subject.<sup>5</sup>

<sup>1</sup>I obtained this copy from M. Eugene Bore, who visited Van in the latter end of the year 1838. His transcript is more perfect than that which was found among Schultz's papers, and which was published in the *Journal Asiatique*, iii series, tome ix, No. 52, but it is still defective in the last two lines, which are said to be entirely concealed by shrubs and grass growing out of the face of the rock. My translation of this inscription, in Chapter V, may be compared with that which is given in Lassen's Memoir, pp. 147-151.

<sup>2</sup>Dr. Müller's Memoir was published in the April number of the *Journal Asiatique* for 1839. I am unable to refer at present to M. Jacquet's papers which were published serially in the same periodical, and I cannot give, therefore, the date of their appearance. M. Jacquet died, however, in the year 1837.

<sup>3</sup>By translation, I do not mean the deciphering of names, but the correct rendering of the different members of a sentence according to their etymologies and their respective grammatical relations. In the one respect the labors of Grotefend and Saint Martin were valuable; in the other, they were beneath criticism.

<sup>4</sup>The names which M. Burnouf identified, notwithstanding his violation of their orthography, were the following: Persia, Media, Babylon, Arabia, Cappadocia, Ionia, Zaran-gia, Aria, Bactria, and Sogdiana. Of the remainder, he left the greater part untouched, but the few which he did examine were incorrectly rendered. I may mention the Oichardi, Ithaguri, Arrhoei, Gordyeans, Arianians, etc.

<sup>5</sup>At this period one of M. Jacquet's Essays had fallen into my hands. I have since hastily examined the entire series, but unfortunately I am without the means of consulting them at present, and I retain no very distinct recollection of their contents.

The highly improved condition of the Bonn alphabet has rendered the Professor's identification of the geographical names at Persepolis far superior in correctness to that of M. Burnouf, but still he is not, I think, without error in his reading and appropriation of these names,<sup>1</sup> and that he has also in many cases misunderstood both the etymology of the words and the grammatical structure of the language, will be apparent from the appendix to the present Memoir, where I have compared the Professor's translation of Niebuhr's inscription with my own.<sup>2</sup>

In the present case, then, I do not put forth a claim to originality, as having been the first to present to the world a literal and, as I believe, a correct grammatical translation of nearly 200<sup>3</sup> lines of Cuneiform writing, a memorial of the time of Darius Hystaspes, the greatest part of which is in so perfect a state as to afford ample and certain grounds for a minute orthographical and etymological analysis, and the purport of which to the historian must, I think, be of fully equal interest with the peculiarities of its language to the philologist. I do not affect at the same time to consider my translations as unimpeachable; those who expect in the present paper to see the Cuneiform inscriptions rendered and explained with as much certainty and clearness as the ancient tablets of Greece and Rome will be lamentably disappointed. It must be remembered that the Persian of the ante-Alexandrian ages has long ceased to be a living language; and its interpretation depends on the collateral aid of the Sanskrit, the Zend, and the corrupted dialects which in the forests and mountains of Persia have survived the wreck of the old tongue; and that in a few instances, where these cognate and derivative languages have failed to perpetuate the ancient roots, or where my limited acquaintance with the different dialects may have failed to discover the connection, I have been then obliged to assign an arbitrary meaning, obtained by comparative propriety of application in a very limited field of research. I feel, therefore, that in a few cases my translations will be subject to doubt, and that as materials of analysis continue to be accumulated and more experienced Orientalists prosecute the study, it may be found necessary to alter or modify some of the significations that I have assigned; but at the same time I do not, and cannot, doubt, but that I have accurately determined the general application of every paragraph, and that I have been thus enabled to exhibit a correct historical outline, possessing the weight of Royal and contemporaneous recital, of many great events which preceded the rise and marked career of one of the most celebrated of the early sovereigns of Persia.

When I wrote the foregoing introduction in the year 1839, it was my intention to have merely published the text of the Behistun Inscription, with a running commentary illustrative of such points of philology, history and geography, as appeared particularly to deserve attention, and I con

<sup>1</sup>In Professor Lassen's first work (1836) there are three names which I consider open to objection—Choani, Arbela and Gordyene. In 1839, he had amended the first of these titles to Susa, and in his last Memoir (1844) he returns to M. Burnouf's original identification of Arabia, instead of Arbela. At present, the only names in Niebuhr's list of which I question Professor Lassen's reading are his *Xudraya* and *Parutava*. This subject, however, will be discussed in its proper place.

<sup>2</sup>I do not think it necessary at present to give this comparative appendix. Anyone who is curious on the subject may collate the translations which are given in Chapter V, with those contained in Professor Lassen's last Memoir.

<sup>3</sup>Since augmented to considerably above 400 lines.—Ed.



fidently expected that the Memoir in this humble form would be ready for the press before the expiration of the year. As I proceeded, however, with my task the labor grew insensibly on my hands. The examination of a language, so venerable from its age, and so interesting from its close affinity to the Vedic Sanskrit, seemed to demand more care than could be bestowed on it in a mere series of critical notes. While the historical and geographical questions that started up in rapid succession at each progressive stage of the inquiry, threatened to bury the text under a load of commentary, and to obscure, or perhaps entirely efface the force and perspicuity of the argument, I set to work, accordingly, in the autumn of 1839 to recast the Memoir, arranging the material under different heads, and devoting a separate chapter to the treatment of each particular subject. This distribution was of the greatest assistance to me. The progress of the work was necessarily slow, but it was constant and uniform; and I might have still hoped to publish the Memoir in its amended form in the spring of 1840, had not circumstances over which I had no control, and which I could neither have desired nor foreseen, arrested my inquiries in mid-career and superseded for a long period the possibility of their resumption.

It is not my intention to dwell with any minuteness on the interruption which I thus sustained. Let it suffice to state that my services were called into activity by the Government, that I was suddenly transferred from the lettered seclusion of Bagdad to fill a responsible and laborious office in Afghanistan, and that I continued in that situation during the entire period of our eventful occupation of the country. Those who have experienced a difficulty of combining a sustained application to literary matters with the ordinary distractions of business, will I believe admit that in the emergent condition of the public service in Afghanistan, calling for undivided attention and untiring care, I had no alternative but the abandonment of antiquarian research. To have continued my labors on the inscriptions during the few hours of leisure that I could legitimately command would have produced no result; to have devoted any considerable portion of my time to the inquiry, would have been incompatible with my duty to the Government.

But years rolled on, and in December, 1843, I found myself again at Bagdad. The interest in the inscriptions with which my original researches had inspired me, had never flagged; it was sharpened perhaps by the accidents that had so long operated to delay its gratification; and I thus hastened with eager satisfaction to profit by the first interval of relaxation that I had enjoyed for many years to resume the thread of the inquiry. Mr. Westergaard, well known for his contributions to Sanskrit literature, who had been traveling in Persia during the year 1843, for the express purpose of collecting palæographic and antiquarian materials, supplied me at this period in the most liberal manner with several new inscriptions which he had copied at Persepolis. The inscription on the portal close to the great staircase, which had escaped all former visitors, was of much value; equally so were the corrections of Niebuhr's inscriptions H and I, and the restoration of all the minor tablets upon the platform; but the gem of his collection, the most important record in fact of the class which exists in Persia, with the exception of the tablets of Behistun, I found to be the long inscription at Nakhsh-i-Rustam engraved on the rock-hewn sepulchre of Darius. This inscription was no less remarkable for its extent and interest than for the

correctness of its delineation. I could not but observe, indeed, that Mr. Westergaard's copy, defective as it necessarily was, both from the abrasion of the rock and from the difficulty of tracing letters through a telescope at so great an elevation, still indicated, in its superiority over all the specimens of Niebuhr, LeBrun, Porter, and Rich, the immense advantage which a transcriber acquainted with the character and language enjoys over one who can only depend for the fidelity of his copy on the imitative accuracy of an artist.

I had derived the greatest assistance in my recent labors from Mr. Westergaard's inscriptions as well as from the Median copy of the inscription at Nakhsh-i-Rustam, with which soon after my arrival at Bagdad I was most kindly furnished by M. Dittel, a Russian Orientalist, who was Mr. Westergaard's coadjutor at Persepolis; and I trust that both these gentlemen will permit me to express in a public form, the obligations which I thus owe to them.

It was probable with these extended materials at my command, and with the improved acquaintance with the language which such materials supplied, I should have thought it advisable under any circumstances to undertake a third revision of the Memoir that I was writing; but such a course was rendered absolutely necessary by the fortunate result of a visit which I was enabled again to make to the rock of Behistun in the autumn of last year, and in which I succeeded in copying the whole of Persian writing at that place, and a very considerable portion also of the Median and Babylonian transcripts. I will not here speak of the difficulties or dangers of the enterprise. They are such as any person with ordinary nerves may successfully encounter; but they are such, at the same time, as have alone prevented the inscriptions from being long ago presented to the public by some of the numerous travelers who have wistfully contemplated them at a distance.

On returning to Bagdad from my tour in Southern Kurdistan, public avocations and indifferent health again prevented me for some time from continuing my labors. The same causes have operated, with more or less effect, in impeding their prosecution during the spring and summer, and if I had not been fortunately able to avail myself of the ready hand of Lieutenant Jones, an accomplished officer of the Indian Navy, who has delineated the sculptures of Behistun and contributed in a great measure to the execution of the text, I might have been altogether frustrated in my hope of early publication. I may observe, at the same time, that in February of the present year, I took the precaution of forwarding to the Royal Asiatic Society, a literal translation of every portion of the Persian writing at Behistun, and of thus placing beyond the power of dispute the claim of the Society at that date to the results which are published in the following Memoir.

I now proceed to notice the contemporaneous march of discovery upon the Continent during the interval which had elapsed since the publication of the Bonn and Paris Memoirs of 1836. Professor Lassen, I believe, established a Journal at Bonn in the year 1838\* devoted exclusively to the elaboration of Palæography and Eastern literature, and in that journal, I have been given to understand several papers on the Cuneiform Inscriptions have

\*This Journal was entitled *Zeitschrift für die Kunde des Morgenlandes*.



from time to time appeared.<sup>1</sup> One of these papers, containing a translation of the inscription of Artaxerxes Ochus, was explained to me (for unfortunately I am ignorant of German) by Dr. Aloys Sprenger, at Calcutta, in 1843; but of the contents of the others I have no cognizance whatever. I am indebted to Mr. Westergaard for the information that Professor Grotefend undertook in 1839 to call in question the discoveries of Professor Lassen, and to place in opposition to them the infallible claims of the antiquated alphabet of 1815,<sup>2</sup> a proceeding which was justly regarded by the German literati as little better than fatuity.

Professor Grotefend may take up the high position of primitive, though imperfect discovery; but Professor Lassen may contest with him even in the numerical identification of alphabetical powers; while in all the essentials of interpretation the old has no pretension whatever to be brought into comparison with the modern system. I also learn from the same source that other Orientalists with whose labors I am very imperfectly acquainted have been engaged in the inquiry. To Dr. Beer, of Leipsic, it appears, is conceded in Germany the discovery of the two characters *h* and *y*, and the lamented M. Jacquet is said to have appropriated to his own researches the determination of the letter *ch* and *jh*.<sup>3</sup> The only identifications in the present Memoir that I presume to be essentially different from those which are universally received at present upon the Continent, . . . To those who are interested in tracing the exact progress of alphabetical announcement, the tabular statement which heads Chapter III, on the Persian Cuneiform alphabet, will afford full and satisfactory information. For the mere purpose of reading the inscriptions the phonetic powers which are given in the right-hand column of the Table will be an ample and sufficient guide.

It remains that I should pay another tribute to Professor Lassen's acumen and research. It appears that Mr. Westergaard on his return to Europe at the commencement of 1844, placed his Persian inscriptions in the hands of Professor Lassen, and that these new materials were justly deemed of sufficient consequence to demand an immediate and elaborate analysis. The Professor accordingly devoted an early number of his journal to the subject, and he took occasion at the same time to collect all the other inscriptions of the class and to publish the whole series together, in an

<sup>1</sup>I now find that two papers only were published by Professor Lassen on the Cuneiform Inscriptions in the early numbers of his journal. 1. *On the latest advancement on the decipherment of the simple Persepolitan wedge-formed characters*. [Vol. ii, No. xxvi, p. 442.]

<sup>2</sup>Professor Grotefend may, perhaps, date his original alphabet from 1802. I fix on 1815 as the period of the publication of the third edition of Heeren's *Ideen*, in which the discoveries of the Professor first appeared "in extenso."

<sup>3</sup>Dr. E. E. F. Beer published in 1838 a review of the discoveries of Grotefend, Burnouf and Lassen in the *Allgemein. Hall. Literat. Zeitung*, ii; and this article was, I believe, the first which appeared in Germany suggesting the true powers of certain letters. M. Jacquet, however, is said to have previously and independently made the same discoveries at Paris; and, as he died in 1837, the publication of his papers in the *Journal Asiatique*, unless they were posthumous, must have anticipated the Leipsic announcement. Dr. Beer's review I have never seen, and M. Jacquet's papers I perused so long ago, and in such a cursory manner, that I entertain a very imperfect recollection of them.

amended text, and with revised translations.\* This is, I believe, the last work that has appeared upon the subject, and as might have been expected, it anticipates in some degree the novelty of the present Memoir.

I have received a copy of the pamphlet while I have been writing the following pages, and I have found it of the greatest convenience, as a manual of reference. The marginal notes, indeed, that I have added to the present text will show the care with which I have consulted it; but at the same time, I am bound to say that my translations, already completed when the book arrived, were, if not independent of assistance, at any rate beyond the reach of alteration, and I have further to regret that an ignorance of German has deprived me of that aid on questionable points of grammar, which, if I had been able to follow the Professor's arguments, I could not have failed to derive from the matured opinions of so eminent and correct a scholar.

I have only further to observe, that although the present Memoir, in consequence of the great augmentation of material, has been rewritten during the present year, it is, as far as the original materials extended, and in all essential points of grammatical and etymological construction, absolutely identical with that which I had brought into a forward state of preparation for the press in the year 1839. If the translations can be amended (and imperfectly acquainted as I am with the niceties of Zend and Sanskrit grammar, I submit them with diffidence and deference to the public), they must be indebted for their improvement to a critical examination of the text; for the materials available for analysis or verification, are now, I believe, entirely exhausted; and unless excavations should be undertaken on a great scale either at Susa, Persepolis, or Pasargadæ, we must rest content with the sorrowful conviction that we have here, comprised in a few pages, all that remains of the ancient Persian language, and all that contemporary native evidence records of the glories of the Achæmenides.

## TRANSLATION OF THE BEHISTUN INSCRIPTION

### COLUMN I

1. I am Darius, the great King, the King of Kings, the King of Persia, the King of (the dependent) provinces, the son of Hystaspes, the grandson of Arsames, the Achæmenian.

2. Says Darius, the King:—My father was Hystaspes, of Hystaspes the father was Arsames; of Arsames the father was Ariyaramnes; of Ariyaramnes the father was Teispes; of Teispes the father was Achæmenes.

3. Says Darius, the King:—On that account we have been called Achæmenians; from antiquity we have been unsubdued (or we have descended); from antiquity those of our race have been kings.

\*Professor Lassen's article is entitled *Die Alt-Persischen Keil-Inschriften nach N. L. Westergaard's Mittheilungen*, von Chr. Lassen. It forms the first number of the sixth volume of the *Zeitschrift für die Kunde des Morgenlandes*, and extends to 188 pages. Professor Lassen had the kindness to transmit to me, through Mr. Renouard, Foreign Secretary of the Royal Geographical Society of London, a copy of his excellent Memoir on July 18, 1844, but, owing to the difficulty of communicating between Bonn and Bagdad, the pamphlet only reached me in August, 1845.



4. Says Darius, the King:—There are 8 of my race who have been kings before me, I am the ninth; for a very long time we have been kings.

5. Says Darius, the King:—By the grace of Ormuzd I am (I have become king); Ormuzd has granted me the empire.

6. Says Darius, the King:—These are the countries which have fallen into my hands—by the grace of Ormuzd I have become King of them—Persia, Susiana, Babylonia, Assyria, Arabia, Egypt; those which are of the sea, Sparta and Ionia; Armenia, Cappadocia, Parthia, Zarangia, Aria, Chorasmia, Bactria, Sogdiana, the Sacæ, the Sattagydes, Arachosia, and the Mecians, the total amount being 21 (23?) countries.

7. Says Darius, the King:—These are the countries which have come to me; by the grace of Ormuzd they have become subject to me—they have brought tribute to me. That which has been said unto them by me, both by night and by day it has been performed by them.

8. Says Darius, the King:—Within these countries whoever was of the true faith, him have I cherished and protected; whoever was a heretic, him have I rooted out entirely. By the grace of Ormuzd these countries therefore, being given to me, have rejoiced. As to them it has been said by me, thus has it been done by them.

9. Says Darius, the King:—Ormuzd has granted me the empire. Ormuzd has brought help to me until I have gained this empire. By the grace of Ormuzd I hold this empire.

10. Says Darius, the King:—This (or the following) (is) what was done by me before I became king. He who was named Cambyses (Kabujiya), the son of Cyrus of our race, he was here king before me. There was of that Cambyses a brother named Bartius; he was of the same father and mother as Cambyses. Cambyses slew this Bartius. When Cambyses slew that Bartius the troubles of the state ceased which Bartius had excited. (?) Then Cambyses proceeded to Egypt. When Cambyses had gone to Egypt, the state became heretical; then the lie became abounding in the land, both in Persia and in Media, and in the other provinces.

11. Says Darius, the King:—Afterwards there was a certain man, a Magian, named Gomátes. He arose from Pissiachádâ, the mountains named Arakadres, from thence, on the 14 day of the month Viyakhna, then it was, as he arose, to the state he thus falsely declared: "I am Bartius, the son Cyrus, the brother of Cambyses." Then the whole state became rebellious; from Cambyses it went over to that (Bartius), both Persia and Media, and the other provinces. He seized the empire; on the 9 day of the month Garmapada, then it was he thus seized the empire. Afterwards Cambyses, unable to endure his (misfortunes) died.

12. Says Darius, the King:—That crown, or empire, of which Gomátes, the Magian, dispossessed Cambyses, that crown has been in our family from the olden time. After Gomátes, the Magian, had dispossessed Cambyses of Persia and Media and the dependent provinces, he did according to his desire, he became king.

13. Says Darius, the King:—There was not a man, neither Persian, nor Median, nor anyone of our family, who would dispossess of the empire that Gomátes, the Magian. The state feared to resist him. He would frequently address the state, which knew the old Bartius, for that reason he would address the state, saying, "Beware lest it regard me as if I were

not Bartius, the son of Cyrus." There was not anyone bold enough to oppose him; everyone was standing obediently around Gomátes, the Magian, until I arrived. Then I abode in the worship of Ormuzd; Ormuzd brought help to me. On the 10 day of the month Bágayâdish, then it was, with the men who were my well-wishers, I slew that Gomátes, the Magian, and the chief men who were his followers. The fort named Siktakhotes, in the district of Media, named Nisæa, there I slew him; I dispossessed him of the empire. By the grace of Ormuzd I became king; Ormuzd granted me the sceptre.

14. Says Darius, the King:—The crown that had been wrested from our race, that I recovered, I established it firmly, as in the days of old; thus I did. The rites which Gomátes, the Magian, had introduced, I prohibited. I reinstituted for the state the sacred chants and (sacrificial) worship, and confided them to the families which Gomátes, the Magian, had deprived of those offices. I firmly established the kingdom, both Persia and Media, and the other provinces, as in the days of old; thus I restored that which had been taken away. By the grace of Ormuzd I did this. I laboured until I had firmly established our family as in the days of old. I laboured, by the grace of Ormuzd (in order) that Gomátes, the Magian, might not supersede our family.

15. Says Darius, the King:—This is that which I did after that I became king.

16. Says Darius, the King:—When I had slain Gomátes, the Magian, then a certain man named Atrines, the son of Opadarmes, he arose; to the state of Susiana he thus said: "I am king of Susiana." Then the people of Susiana became rebellious; they went over to that Atrines; he became King of Susiana. And a certain man, a Babylonian, named Natitabirus, the son of Æna . . . he arose. The state of Babylonia he thus falsely addressed: "I am Nabokhodrossor, the son of Nabonidus." Then the entire Babylonian state went over to that Natitabirus. Babylon became rebellious. He (Natitabirus) seized the government of Babylonia.

17. Says Darius, the King:—Then I went to Susiana; that Atrines was brought to me a prisoner. I slew him.

18. Says Darius, the King:—Then I proceeded to Babylon (marching) against that Natitabirus, who was called Nabokhodrossor. The forces of Natitabirus held the Tigris; there they had come, and they had boats. Then I placed a detachment on rafts; I brought the enemy into difficulty; I assaulted the enemy's position. Ormuzd brought help to me; by the grace of Ormuzd I succeeded in passing the Tigris. Then I entirely defeated the army of that Natitabirus. On the 27 day of the month of Atri-yáta, then it was that we thus fought.

19. Says Darius, the King:—Then I marched against Babylon. When I arrived near Babylon, the city named Zázána, upon the Euphrates, there that Natitabirus, who was called Nabokhodrossor, came with a force before me offering battle. Then we fought a battle. Ormuzd brought help to me; by the grace of Ormuzd, I entirely defeated the force of Natitabirus. The enemy was driven into the water; the water destroyed them. On the 2 day of the month Anámaka, then it was that we thus fought the battle.

[End of Column I, which extends to 96 lines, and the writing on which is generally in good preservation.]



## COLUMN II

1. Says Darius, the King:—Then Natitabirus, with the horsemen who were faithful to him, fled to Babylon. Then I proceeded to Babylon; I took both Babylon and seized that Natitabirus. Afterwards I slew that Natitabirus at Babylon.

2. Says Darius, the King:—Whilst I was at Babylon these are the countries which revolted against me: Persia, Susiana, Media, Assyria, Armenia, Parthia, Margiana, Sattagydia and Sacia.

3. Says Darius, the King:—A certain man named Martius, the son of Sisicres; a city of Persia, named Cyganaca, there he dwelt; he rose up; to the state of Susiana he thus said: "I am Omanes, the King of Susiana."

4. Says Darius, the King:—Upon this (?) I was moving a little way in the direction of Susiana; then the Susians, fearing (?) from me, seized that Martius who was their chief, and they slew him. (?)

5. Says Darius, the King:—A certain man named Phraortes, a Median, he rose up; to the state of Media he thus said: "I am Xathrites, of the race of Cyaxares." Then the Median forces, which were at home, (?) revolted against me. They went over to that Phraortes; he became King of Media.

6. Says Darius, the King:—The army of Persians and Medes that was with me (on service) that remained faithful to me. Then I sent forth these troops. Hydarnes by name, a Persian, one of my subjects, him I appointed their leader. I thus addressed them: "Happiness attend ye; smite that Median State which does not acknowledge me." Then that Hydarnes marched with his army. When he reached Media, a city of Media named Ma . . . , there he engaged the Medes. He who was a leader of the Medes could not at all resist him. (?) Ormuzd brought help to me; by the grace of Ormuzd, the troops of Hydarnes entirely defeated the rebel army. On the 6 day of the month Anámaka, then it was that the battle was thus fought by them. Afterwards my forces remained at Kapada, a district of Media, according to my order, (?) until I myself arrived in Media.

7. Says Darius, the King:—Then Dadarses by name, an Armenian, one of my servants, him I sent to Armenia. I thus said to him: "Greeting to thee, the rebel state that does not obey me, smite it." Then Dadarses marched. When he reached Armenia, then the rebels, having collected, came before Dadarses arraying their battle. . . . by name a village of Armenia, there they engaged. Ormuzd brought help to me; by the grace of Ormuzd, my forces entirely defeated that rebel army. On the 8 day of the month Thurawáhara, then it was a battle was thus fought by them.

8. Says Darius, the King:—For the second time the rebels, having collected, returned before Dadarses arraying battle. The fort of Armenia named Tigra, there they engaged. Ormuzd brought help to me; by the grace of Ormuzd, my troops entirely defeated that rebel army. On the 18 day of the month Thurawáhara, then it was that the battle was thus fought by them.

9. Says Darius, the King:—For the third time the rebels having assembled, returned before Dadarses arraying battle. A fort of Armenia named . . . there they engaged. Ormuzd brought help to me; by the grace of Ormuzd, my forces entirely defeated the rebel troops. On the 9 day of the month Thaigarchish, then it was a battle was thus fought by

them. Afterwards Dadarses remained away from me . . . . until I reached Media.

10. Says Darius, the King:—Then he who was named Vomises, a Persian, one of my servants, him I sent to Armenia. Thus I said to him: "Hail to thee, the rebel state which does not acknowledge my authority, bring it under submission." Then Vomises marched forth. When he had reached Armenia, then the rebels, having assembled, came again before Vomises in order of battle. A district of Assyria named . . . . there they engaged. Ormuzd brought help to me; by the grace of Ormuzd, my forces entirely defeated that rebel army. On the 15 day of the month Anámaka, then it was a battle was thus fought by them.

11. Says Darius, the King:—For the second time the rebels having assembled, came before Vomises in battle-array. The district of Armenia, named Otiára, there they engaged. Ormuzd brought help to me; by the grace of Ormuzd, my forces entirely defeated that rebel army. In the month of Thurawáhara, upon the festival, (?) thus was a battle fought by them. Afterwards Vomises remained in Armenia, apart from me, until I reached Media.

12. Says Darius, the King:—Then I departed\*; from Babylon I proceeded to Media. When I reached Media, a city of Media, named Gudrusia, there that Phraortes, who was called King of Media, came with an army before me in battle-array. Then we joined battle. Ormuzd brought help to me; by the grace of Ormuzd, I entirely defeated the forces of Phraortes. On the 26 day of the month of Askhana, (?) then it was we thus fought the battle.

13. Says Darius, the King:—Then that Phraortes, with the horsemen who were faithful to him, fled from thence to the district of Media, named Rhages. Subsequently I despatched forces in pursuit, by whom Phraortes was taken and brought before me. I cut off both his nose and his ears and his lips, (?) and I brought him to . . . . He was chained at my door; and all the kingdom beheld him. Afterwards at Ecbatana, there I had him crucified; (?) and the men who were his chief followers at Elbatana, in the citadel imprisoned (?) them.

14. Says Darius, the King:—A certain man, named Sitratachmes, a Sagartian, he rebelled against me. To the state he thus said: "I am the King of Sagartia. I am of the race of Cyaxares." Then I sent forth an army composed of Persians and Medians. A man named Camaspates, a Median, one of my subjects, him I appointed their leader. Thus I addressed them: "Hail to ye, the State which is in revolt, which does not acknowledge me, smite it." Then Camaspates marched with his army. He fought a battle with Sitratachmes. Ormuzd brought help to me; by the grace of Ormuzd, my troops entirely defeated the rebel army, and took Sitratachmes, and brought him before me. Then I cut off his nose and ears, and I brought him to . . . . He was kept chained at my door. (?) All the kingdom beheld him. Afterwards I had him crucified (?) at Arbela.

15. Says Darius, the King:—This is that (which) was done by me in Media.

16. Says Darius, the King:—[The rest of this paragraph is illegible in the Persian inscription, except in a few detached words. A connected

\*The Latin should have been corrected from *demum* to *abii*.



translation is given from the Median transcript which is perfect.] Parthia and Hyrcania (*Warkán* in the Persian, *Vehkániva* in the Median) revolted against me; they declared for Phraortes. Hystaspes, who was my father, the Parthian forces rose in rebellion against him. Then Hystaspes with the troops who remained faithful to him marched forth. Hyspaostisa, a town of Parthia, there he engaged the rebels. Ormuzd brought help . . . by the grace of Ormuzd, Hystaspes entirely defeated the rebel army; on the 22 day of the month of Viyakhna (*Viyahnas* in the Median), then it was the battle was thus fought by them.

[End of Column II, which extends like the preceding to 96 lines. The writing is a good deal injured by a fissure in the rock which extends the whole length of the tablet.]

## COLUMN III

1. Says Darius, the King:—Then I sent from Rhages a Persian army to Hystaspes. When that army reached Hystaspes, he marched forth with those troops. The city of Parthia, named Patigapana, there he fought with the rebels. Ormuzd brought help to me; by the grace of Ormuzd, Hystaspes entirely defeated the rebel army. On the 1 day of the month of Garmapada, then it was the battle was thus fought by them.

2. Says Darius, the King:—Then the province submitted to me. This was what was done by me in Parthia.

3. Says Darius, the King:—The province, named Margiana, that revolted (?) against me. A certain man, named Phraates, the Margians made him their leader.\* Then I sent to him one who was named Dadarses, a Persian, one of my subjects, and the Satrap of Bactria. Thus said I to him: "Hail to thee; attack that province which does not acknowledge me." Then Dadarses marched with his forces; he joined battle with the Margians. Ormuzd brought help to me; by the grace of Ormuzd my troops entirely defeated the rebel army. On the 23 day of the month Atriyatiya, then it was the battle was thus fought by them.

4. Says Darius, the King:—Then the province submitted to me. This was what was done by me in Bactria.

5. Says Darius, the King:—A certain man, named Veisdátes, a city, named Tárba, in the district of Persia, named Yutiya, there he dwelt. He rose up a second time; to the state of Persia he thus said: "I am Bartius, son of Cyrus." Then the Persian forces, which were at home being removed (?) from connection with me, they revolted against me. They went over to that Veisdátes; he became King of Persia.

6. Says Darius, the King:—Then I sent forth the Persian and Median forces which were with me. Artabardes by name, one of my servants, him I appointed their chief. Another Persian force proceeded after me to Media. Then Artabardes, with his troops, marched to Persia. When he reached Persia, a city of Persia, named Racha, there that Veisdátes, who was called Bartius, came with a force before Artabardes in battle-array. Then they joined battle. Ormuzd brought help to me; by the grace of Ormuzd, my troops entirely defeated the army of Veisdátes. On the 12 day of the month Thurawáhara, then it was the battle was thus fought by them.

7. Says Darius, the King:—Then that Veisdátes, with the horsemen who remained staunch to him, fled from thence to Pissiachádá. From that

\*General Rawlinson subsequently reads this, "a certain man named Phraates, a Margian, they made him their leader."

place, with an army, he came back arraying battle before Artabardes. The mountains, named Parga, there they fought. Ormuzd brought help to me; by the grace of Ormuzd, my troops entirely defeated the army of Veisdátes. On the 6 day of the month of Garmapada, then it was that the battle was thus fought by them. Both that Veisdátes they took, and also they took the men who were his principal adherents.

8. Says Darius, the King:—Then that Veisdátes, and the men who were his chief followers, the town of Persia, named Chadidia, there I impaled (?) them.

9. Says Darius, the King:—That Veisdátes, who was called Bartius, he sent troops to Arachotia, against one named Vibánuš, a Persian, one of my servants and Satrap of Arachotia, and he appointed a certain man to be their leader. He thus addressed them: "Hail to ye; smite Vibánuš, and that State which obeys the rule of King Darius." Then those forces marched which Veisdátes had sent against Vibánuš, preparing for battle. A fort, named Capiscania, there they fought an action. Ormuzd brought help to me; by the grace of Ormuzd, my troops entirely defeated that rebel army. On the 13 day of the month Anámaka, then it was the battle was thus fought by them.

10. Says Darius, the King:—Another time the rebels have assembled, came before Vibánuš, offering battle. The district, named Gadytia, there they fought an action. Ormuzd brought help to me; by the grace of Ormuzd, my troops entirely defeated the rebel army. On the 7 day of the month Viyakhna, then it was the battle was thus fought by them.

11. Says Darius, the King:—Then that man who was the leader of those troops which Veisdátes had sent against Vibánuš, that leader with the horsemen who were faithful to him fled away. A fort of Arachotia, named Arshada, he went beyond that place. Then Vibánuš with his troops marched in pursuit [or to Nipatiya]. There he took him, and slew the men who were his chief followers.

12. Says Darius, the King:—Then the province submitted to me. This was what was done by me in Arachotia.

13. Says Darius, the King:—Whilst I was in Persia and Media, for the second time the Babylonians revolted against me. A certain man, named Aracus, an Armenian, the son of Nanditus, he rose up; a district of Babylon, named Dobana, from thence he arose; he thus falsely proclaimed: "I am Nabokhodrossor, the son of Nabonidus." Then the Babylonian State revolted against me; it went over to that Aracus; he seized on Babylon; he became King of Babylonia.

14. Says Darius, the King:—Then I sent troops to Babylon. A Median of the name of Intaphres, one of my servants, him I appointed their leader. Thus I addressed them: "Hail to ye, smite that Babylonian State, which does not acknowledge me." Then Intaphres with his force marched to Babylon. Ormuzd brought help to me; by the grace of Ormuzd, Intaphres took Babylon. . . . On the 2 day of the month . . . then it was he thus . . . [The three last lines are entirely lost in the Persian, with the exception of the concluding words, "then he was killed"; and I have not the Median translation of this part of the inscription.]

[End of Column III, containing 92 lines.]



## COLUMN IV

1. Says Darius, the King:—This was what has done by me in Babylonia.

2. Says Darius, the King:—[This column is throughout greatly defaced; in many parts the writing is wholly obliterated, and can only be conjecturally restored; the translation is given with much less confidence than that of the preceding columns.] This is what I have done. By the grace of Ormuzd, have I done everything. As the provinces revolted against me, I fought 19 battles. By the grace of Ormuzd, I smote them, and I made 9 kings captive. One was named Gomâtes, the Magian; he was an impostor; he said, "I am Bartius, the son of Cyrus"; he threw Persia into revolt. One, an impostor, was named Atrines, the Susian, he thus said: "I am the King of Susiana"; he caused Susiana to revolt against me. One was named Natitabirus, a native of Babylon; he was an impostor: he thus said, "I am Nabokhodrossor, the son of Nabonidus"; he caused Babylon to revolt. One was an impostor, named Martius, the Persian: he thus said, "I am Omanes, the King of Susiana"; he threw Susiana into rebellion. One was named Phraortes, the Median; he assumed a false character: he thus said, "I am Xathrites, of the race of Cyaxares"; he persuaded Media to revolt. One was an impostor, named Sitratachmes, a native of Sagartia: he thus said, "I am the King of Sagartia, of the race of Cyaxares"; he headed a rebellion in Sagartia. One was an impostor, named Phraates, a Margian: he thus said, "I am the King of Margiana"; he threw Margiana into revolt. One was an impostor, named Veisdâtes, a Persian: he thus said, "I am Bartius, the son of Cyrus"; he headed a rebellion in Persia. One was an impostor, named Aracus, a native of Armenia: he thus said, "I am Nabokhodrossor, the son of Nabonidus"; he threw Babylon into revolt.

3. Says Darius, the King:—These 9 kings I have taken in these battles.

4. Says Darius, the King:—These are the provinces which became rebellious; the Evil one (?) created lies, that they should deceive the State; afterwards . . . . caused . . . . to be subdued by me. (?) As it was desired by me, thus . . . . did. (?)

5. Says Darius, the King:—Thou, whoever may be king hereafter, exert thyself to put down lying; the man who may be heretical, him entirely destroy. If it shall be kept up, (?) my country shall remain entire (or prosperous).

6. Says Darius, the King:—This is what I have done. By the grace of Ormuzd, have I achieved the performance of the whole. Thou, whoever hereafter mayest peruse this tablet, let it be known to thee, that which has been done by me, that it has not been falsely related. (?)

7. Says Darius, the King:—Ormuzd is my witness, (?) that this record (?) I have faithfully made of the performance of the whole.

8. Says Darius, the King:—By the grace of Ormuzd, there is much else that has been done by me that upon this tablet has not been inscribed; on that account it has not been inscribed, lest he who may hereafter peruse this tablet, to him the many deeds (?) that have been done by me elsewhere, it should seem that they are falsely recorded. (?)

9. Says Darius, the King:—Those who have been former kings in Persia in Succession, (?) to them is it done, as by me, by the grace of Ormuzd has been the performance of the whole, so it has been recorded. (?)

10. Says Darius, the King:—Be it known to thee, my successor, (?) that which has been done by me, thus publicly, (?) on that account that thou conceal not. If thou publish this tablet to the world, (?) Ormuzd shall be a friend to thee, and may thy offspring be numerous, and mayest thou be long lived.

11. Says Darius, the King:—If thou shalt conceal this record, thou shalt not be thyself recorded; (?) may Ormuzd be thy enemy, and mayest thou be childless.

12. Says Darius, the King:—This is what I have done; the performance of the whole, by the grace of Ormuzd, I have achieved it. Ormuzd has brought help to me, and the other gods which are (brought help to me).

13. Says Darius, the King:—On that account Ormuzd brought help to me, and the other gods which are (because), that I was not a heretic, nor was I a liar, nor was I a tyrant. . . . My offspring above their place (?), above . . . by me with the tribes . . . was done. Whoever was an evil doer, (?) him I entirely destroyed.

[These lines are much defaced.]

14. Says Darius, the King:—Thou, whatsoever king who mayest be hereafter, the man who may be a liar, or who may be an evil doer (?), do not cherish them; (?) cast them out into utter perdition.

15. Says Darius, the King:—Thou, whosoever hereafter mayest behold this tablet which I have inscribed, and these figures, beware lest thou dishonour them; as long as thou preservest them, so long shalt thou be preserved. (?)

16. Says Darius, the King:—As long as thou mayest behold this tablet and these figures, thou mayest not dishonour them; and if from injury thou shalt preserve them, (?) may Ormuzd be a friend to thee, and may thy offspring be numerous, and mayest thou be long lived; and that which thou mayest do may Ormuzd bless for thee in aftertimes.

17. Says Darius, the King:—If seeing this tablet and these figures, thou shalt dishonour them, and if from injury thou mayest not preserve them, may Ormuzd be thy enemy, and mayest thou be childless; and that which thou mayest do, may Ormuzd spoil for thee.

18. Says Darius, the King:—These are the men who alone (?) were there when I slew Gomátes, the Magian, who was called Bartius. These alone (?) are the men who were the men who were my assistants. [The names are almost obliterated in the Persian, and several of them are imperfect in the Median. I have been able, however, to recover the following, viz.: Intaphernes by name, the son of Hys . . . , a Persian; Otanes by name, the son of . . . , a Persian; Gobryás by name, the son of Mardonius, a Persian; Hydarnes by name, the son of . . . , a Persian; Megabyzus by name, the son of Zopyrus, a Persian; Aspathines by name, the son of . . . , a Persian.]

[There is one more paragraph in Column IV, consisting of 6 lines, which is entirely obliterated in the Persian, and appears to be without any Median translation.]

[End of Column IV, which contains 92 lines, the greater part lamentably injured.]

#### COLUMN V

Of the 35 lines which compose a supplementary half column, it is impossible to give a complete translation, one side of the tablet being entirely



destroyed. From such portions as are decipherable it appears to contain an account of two other revolts; one in Susiana, conducted by a man named . . . imim; and the other by Saruk'ha, the chief of the Sacæ, who dwelt upon the Tigris.

Darius employed Gubar'uwa (Gobryas), the Persian, against the former rebel, and he marched in person against the latter, having previously returned from Media to Babylon. The details of the campaigns cannot be recovered, but they both terminated successfully.

The inscription then concludes with further thanksgiving to Ormuzd, and injunctions to the posterity of Darius to preserve uninjured the memorial of his deeds.

The events described in the supplemental column must have taken place during the process of engraving the preceding record, and after the table containing the sculptured figures was finished. By a further smoothing of the face of the rock, Darius was enabled to add the Sacan Saruk'ha, whom he had defeated in person, to his exhibition of captive figures, but there was no room in the tablet for the figure of the Susian rebel, who was discomfited by his lieutenant Gobryas.

TRANSLATION OF THE DETACHED INSCRIPTIONS WHICH ARE APPENDED TO EACH OF THE FIGURES EXHIBITED ON THE UPPER TRIUMPHAL TABLET

Above the head of Darius is an inscription of 18 lines, marked A. in the Engraving, containing an exact copy of the 4 first paragraphs of Column I, which have been already given. The writing is perfect, and the portions, therefore, of the lower tablet which have been defaced, can be determinately restored. It is needless, I conceive, to repeat the translation.

A Median translation, also quite perfect, adjoins the Persian original; but the Babylonian transcript is wanting.

B. Tablet attached to the prostrate figure on which the victor king tramples:—

"This Gomâtes, the Magian, was an impostor; he thus declared, 'I am Bartius, son of Cyrus. I am the King.'"

C. Adjoining the first standing figure:—

"This Atrines was an impostor; he thus declared, 'I am King of Susiana.'"

D. Adjoining the second standing figure:—

"This Natitabirus was an impostor; he thus declared, 'I am Nabokhodrossor, the son of Nabonidus; I am King of Babylon.'"

E. Adjoining the third standing figure (the Persian legend is engraved on the body of the figure):—

"This Phraortes was an impostor; he thus declared, 'I am Xathrites, of the race of Cyaxares; I am King of Media.'"

F. Above the fourth standing figure:—

"This Martius was an impostor; he thus declared, 'I am Omanes, the King of Susiana.'"

G. Adjoining the fifth standing figure:—

"This Sitratachmes was an impostor; he thus declared, 'I am King of Sagartia, of the race of Cyaxares.'"

\*The name of Nebuchadrezzar is written indifferently Nabukhadrachar and Nabukhudrachar.

H. Adjoining the sixth standing figure:—

"This Veisdâtes was an impostor; he thus declared, 'I am Bartius, the son of Cyrus. I am the King.'"

I. Adjoining the seventh standing figure:—

"This Aracus was an impostor; he thus declared, 'I am Nabokhodrossor, the son of Nabonidus. I am the King of Babylon.'"

J. Adjoining the eighth standing figure:—

"This Phraates was an impostor; he thus declared, 'I am the King of Margiana.'"

K. Above the ninth or supplemental figure with the high cap:—

"This is Saruk'ha, the Sacan."

## Notes

IT IS REPORTED that the Archæological Committee at Athens has decided to restore the Erechtheion, the greater part of which is still standing, while all the fragments needed for the restoration lie on the ground near it.

AT POMPEII during September, 1901, there was discovered a marble bas-relief on which is depicted a sacrifice of a ram to Aphrodite. She is seated on a rock holding a lotos sceptre. Six persons are approaching her, the foremost leading the ram. There are two children in the group. There was also found "*a giallo antico* head of a Mænad from a terminal figure wearing an ivy wreath," and numerous terra cottas.

A BRONZE HEAD OF EMPEROR TIBERIUS was discovered in August, 1901, in Turin. The head is well preserved. "The features are excellently executed, and are of manly beauty, the nose slightly aquiline, and the hair curly and short." It was found about 20 feet below the level of Via Monte di Pietà, where they were excavating for the Opera House Pia di San Paolo. Beside this head of Tiberius there was found a Cupid carved in white marble which unfortunately has lost its head, left arm, right forearm, left leg and right foot.

RUSSIA.—Gorodzeff, a well-known Russian historian, has opened 107 tumuli (mounds) scattered over the Kharkoff province and discovered 299 pre-historic graves. Of these 264 belong to the bronze period and 10 to a period about B.C. 500. An immense variety of interesting objects in bronze has been found—knives, various-shaped vessels of bronze and clay and arrowheads. The skulls found in some of these Scythian graves show traces that after death they were all painted scarlet. Around several heads were rosaries of amber beads. Gorodzeff asserts that the average height of those long-dead warriors must have been at least 7 feet.

DR. GRENFELL AND DR. HUNT, who have recently returned from Egypt, where they have been carrying on excavations for the Egypt Exploration Fund, report a very successful season. They spent two months in the interesting Fayum district, "where they obtained a large number of Ptolemaic papyri, Greek



and demotic. In one cemetery was found a number of crocodile mummies which were stuffed with papyrus rolls, like those discovered in 1900 at Tebtunis."

The rest of the season they spent on the east bank of the Nile between Benisuef and Minia at Hibeh. In the Ptolemaic cemetery here they found that papyri had been commonly used "in making the cartonnage of mummies."

GEZER.—The new site selected for excavations by the Palestine Exploration Fund of London is the biblical Gezer, which had a continuous history from pre-Israelite times to the period of the Crusades. Mr. Stuart McAlister, well known from previous excavations which he conducted with Dr. Bliss in behalf of the Fund, will be in charge of the digging. The firman for which he went personally to Constantinople last fall, may have been granted before this, so that excavations could begin before the season was too far advanced for work in the field. In view of the fact that Clermont-Ganneau discovered the bilingual inscriptions (Hebrew and Greek) at Gezer which define the limits of the ancient city, the natural expectation prevails that other important monuments will be discovered in the course of the exploration.

ENGLISH DISCOVERIES FOR THE PAST MONTH.—A bust of Nero has been unearthed at Caerlton, England, and a stone cist near Dundee which contained a skeleton and an iron ornament belonging to the Roman period. At Haverhill the bones of a mammoth have been discovered, one of its tusks was  $6\frac{1}{2}$  and the other  $4\frac{1}{2}$  feet long. The tusks were "almost in a state of powder," but the teeth were well preserved. In leveling off a mound 10 feet high and 40 feet in diameter, which is situated near Camberlay, 18 urns containing calcined bones were discovered. "The urns are all of rude British make" but were accompanied by no weapons or ornaments by which to determine the exact age. Mr. Shrubsole, curator of the Anthropological and Geological Department of the Reading Museum, thinks "we should not be far wrong in saying that they belong to the age of Bronze, and probably to a late rather than an early date in that age in this country."

TWO REMARKABLE BRONZE ETRUSCAN BUSTS have recently been found at Chiusi, that Italian town which has always been so famous for its "bronzes, mirrors, vases and funeral urns." One of these busts is of a male figure with "pronounced features and a beard indicated by incisions as on black-figured vases; the hair is long and covered with a sort of cap, and the chest is covered with scales, which may indicate a fish body," in which respect it resembles representations of Triton. "The bust is hollow and the inner surface has been strengthened with lead; it has been mounted on wood and seems to have been used for carrying about in processions." The other figure represents a goddess "necklaces and hair falling in plaits on the shoulders presumably a feminine counterpart of the other," however, it is inferior in workmanship although of the same general type. Sig. Milani considers this a bust of Zeus, but it may be a Triton type. These busts date from "about 600 B.C."

CHRISTIAN ANTIQUITIES IN THE SUDAN.—Mr. John Ward, F.S.A., writes: "We have all heard of the temples and pyramids at Meroë, but few were prepared for the discovery of ruined Christian cities beyond Khartum. In the beautiful garden of the palace at Khartum, I saw a huge stone Paschal lamb, of evident Roman structure. Father Ohrwalder told me that this was brought from the ruins of Soba, on the Blue Nile, 25 miles from Khartum, in Gordon's time, and that he knew the place, which abounded with remains of Christian temples, and was once the center of a civilized kingdom. Colonel Stanton, Governor of Khartum, found me a map of the country around Soba, with the ruins laid down. Since then he has visited the ruined temples himself, and is preparing to have them cleared from the sand, and photographed. About 80 miles north of this there are the extensive ruins of another city—Naga—with fine temples of Roman architecture, avenues of lambs, the same as the one

at Khartum, leading up to them. The inscriptions are in hieroglyphs, while the composite capitals of the columns bear the cross, both at Soba and Naga. The lamb at Khartum has a long hieroglyphic text and the cartouche of some ancient king. This inscription had not been observed before I discovered it on the base under the gravel. So far south, Roman work of Christian times with hieroglyphic texts is a novel combination and demands further research. Since I left Khartum, Colonel Stanton writes me that he learns from the natives that there are many similar ruins spread all over the country, and, 80 miles east of Khartum, sculptured rocks and inscriptions, while as far away as Darfur tidings of ruins of temples reach him."

MR. JOHN GARSTANG, a young English archæologist, has just published a book entitled *El-Arabah: A Cemetery of the Middle Kingdom. Survey of the Old Kingdom Temenos*, etc., in which he sets forth the results of his work on the site of ancient Abydos. Among the interesting and important discoveries which he has made is a flat limestone slab on which are recorded the Glorious deeds in Nubia and Palestine which an officer named Sebek-khew accomplished under King Sen-wosret III. (1880-1850 B.C.)

'His Majesty,' says Sebek-khew, 'went north to subdue the Mentiu-Setet' (that is, the Asiatic Bedween). He came to a great district called Sekmem. When his Majesty resolved to return to his palace (that is, his native country), Sekmem allied itself (?) with the vulgar Retenu (that is, Palestine). 'I formed the rear guard of the army. The soldiers of the army fought with the Asiatics; I took an Asiatic prisoner, and had him disarmed by two of my soldiers. Without wavering in battle, my face was set forward; I did not show my back to a single Asiatic. As King Sen-wosret liveth, I have spoken the truth. And the king presented me with a staff of white gold for my hand, a bow, a dagger made of white gold, and other weapons.'

The location of Sekmem is not known, but probably lies in Southern Palestine. This inscription shows how far the kings of the XII dynasty extended their campaigns into Asiatic territory.

It has hitherto been supposed that these wars did not begin until the establishment of the new empire, after the expulsion of the Hyksos. This new information is also important in other respects. Some time ago, C. Sethe, professor in Göttingen, endeavored to prove that the original of Sesostrius, the Egyptian hero king frequently glorified in Greek legends, is not to be sought in Rameses II, as was commonly assumed, but rather (following Manetho) among the Pharaohs of the XII dynasty, known as Sen-wosret, especially in Sen-wosret I. Sethe showed that almost everything that the Greeks say of Sesostrius fits the Egyptian Sen-wosret I and his successors. Of the Asiatic campaigns, so highly extolled in Greek narratives, not a word had hitherto come to us from Egyptian sources. The inscription found at Abydos now supplies this lack. [*Sunday School Times*, July 5, 1902.]

THE AUTHORITIES OF THE IMPERIAL RUSSIAN MUSEUM at St. Petersburg are transporting a large "block of stone 12 feet long and 8 feet wide containing a well-preserved bilingual inscription, i.e., Greek and Palmyrene, which is supposed to date from the III century of our era. The inscription is said to contain the tariffs of customs, duties and taxes levied during that period, divided into 3 tables." This inscription was discovered several years ago by the Russian Prince Abemalak Sazareff. The work of transporting it to St. Petersburg is being superintended by Prof. Uspensky, a member of the Russian Archæological Institute. Palmyra or Tadnor has had a peculiarly interesting history, due to its situation in the midst of the Syrian desert "50 hours' ride or 150 miles northeast of Damascus." Although it is not located on the shortest route between the Phœnician ports and the Persian Gulf it has for 2000 years diverted the caravan travel to itself on account of its two fine springs of water and the political sagacity of its merchants and rulers. At present it is only a small town but from the I to the III centuries of our era it was at its zenith of power. Much of this time it was under Roman control but yet held a practically independent position, especially during the middle and the latter part of the III century when



Odænathus and his wife Zenobia ruled the city. To the Romans Odænathus was a subject, but to the Arabs and Bedouins he was an "independent sovereign, supreme over all the lands from Armenia to Arabia." The wealth of inscriptions which have been found in Palmyra is due to the ancient fad of erecting monuments to those merchants who organized and successfully conducted large caravans across the desert. These monuments took the form of pillars and statues which lined the streets. "Thus arose besides minor streets, the great central avenue which, starting from a triumphal arch near the great temple of the Sun, formed the main axis of the city from southeast to northwest for a length of 1240 yards, and at one time consisted of not less than 750 columns of rosy-white limestone each 55 feet high." For centuries, through this avenue have passed the motley crowd of Saracen, Jewish, Persian and Armenian merchants with their caravans and attendants to whom the city has owed its existence.

BABYLONIA.—Prof. Hermann V. Hilprecht, of the University of Pennsylvania, who for a year and a half has been abroad engaged in excavating the buried cities of Nippur in ancient Babylon, has returned to Philadelphia full of enthusiasm over the results of his expedition. He claims that the work of the university is of the foremost archæological importance, and that the facts brought to light will compel us to revise traditional notions of Babylonian culture. The Babylonians were, Prof. Hilprecht declares, far more advanced in science than commonly supposed, and when the 23,000 old tablets found by him are deciphered their contents will altogether change the ideas of the world regarding the state of civilization and knowledge of that early people. The facts already discovered are of sufficient interest to warrant high expectations as to the future.

Nippur, which has engaged the attention of archæologists for several years, Prof. Hilprecht finds to be a collection of sixteen cities, one built above the other, and the lower of these have not yet been reached. The importance of the tablets brought to this country is in the fact that the buried temple from which they were taken was, according to the custom of the earlier days, a repository of all kinds of learning. It was school and college as well as place of religious worship, and the temple library is, therefore, an epitome of Babylonian civilization. When it is deciphered we shall have such a picture of ancient civilization, such an exhibit of origins, as has never before been given, for no such single collection has ever before been found dating so far back and at the same time so complete and varied.

The deciphering of the inscriptions on these tablets, Prof. Hilprecht declares, will be very difficult, for they must not only be translated, but the alphabet which is the key to the translation must be discovered. He says, however, that what has been thus far done gives a glimpse of the marvels that await us. For example, on one tablet there were minute astronomical calculations as to the constellation Scorpion, and the places and movements of the stars were so accurately described that the astronomers of that time, 2300 B.C., were in some respects as proficient as those of to-day.

It seems that the reputation of the early Babylonians as mathematicians was very much underrated. Whereas our multiplication tables stop at twelve, the Babylonian tables went as far as 60. The scientific workers in those days had the desire and the means of obtaining swift and large conclusions in numbers, and their system of extended tables, particularly in astronomy, where the results of multiplications of 1,300 by 1,300 are seen, is a veritable mathematical marvel.

Not only in science, but in languages, the Babylonian children, even in schools of the lower grade, were compelled to master two—the one a learned, the other a colloquial tongue. What further wonders of mental acquisition there were, remains to be seen, and doubtless will be seen when the deciphering is completed. Prof. Hilprecht is expected to return in a short time to resume his excavations, and there is little doubt that the grand archæological task which has fallen to him

will be brought to a successful conclusion. Rich in material for investigation as he is already, he will be much richer when the task is ended. The lowest city of buried Nippur will have ancient and surprising revelations.

ROME.—Excavations in the Forum.—In the *Classical Review*, 1902, pp. 94-96, Thomas Ashby, Jr., gives a brief account of excavations in the Forum from June to December, 1901. On the southeast side of the temple of Saturn, foundations of *opus quadratum* may have belonged to an earlier form of the temple. A series of underground passages has been found below the area of the Forum.

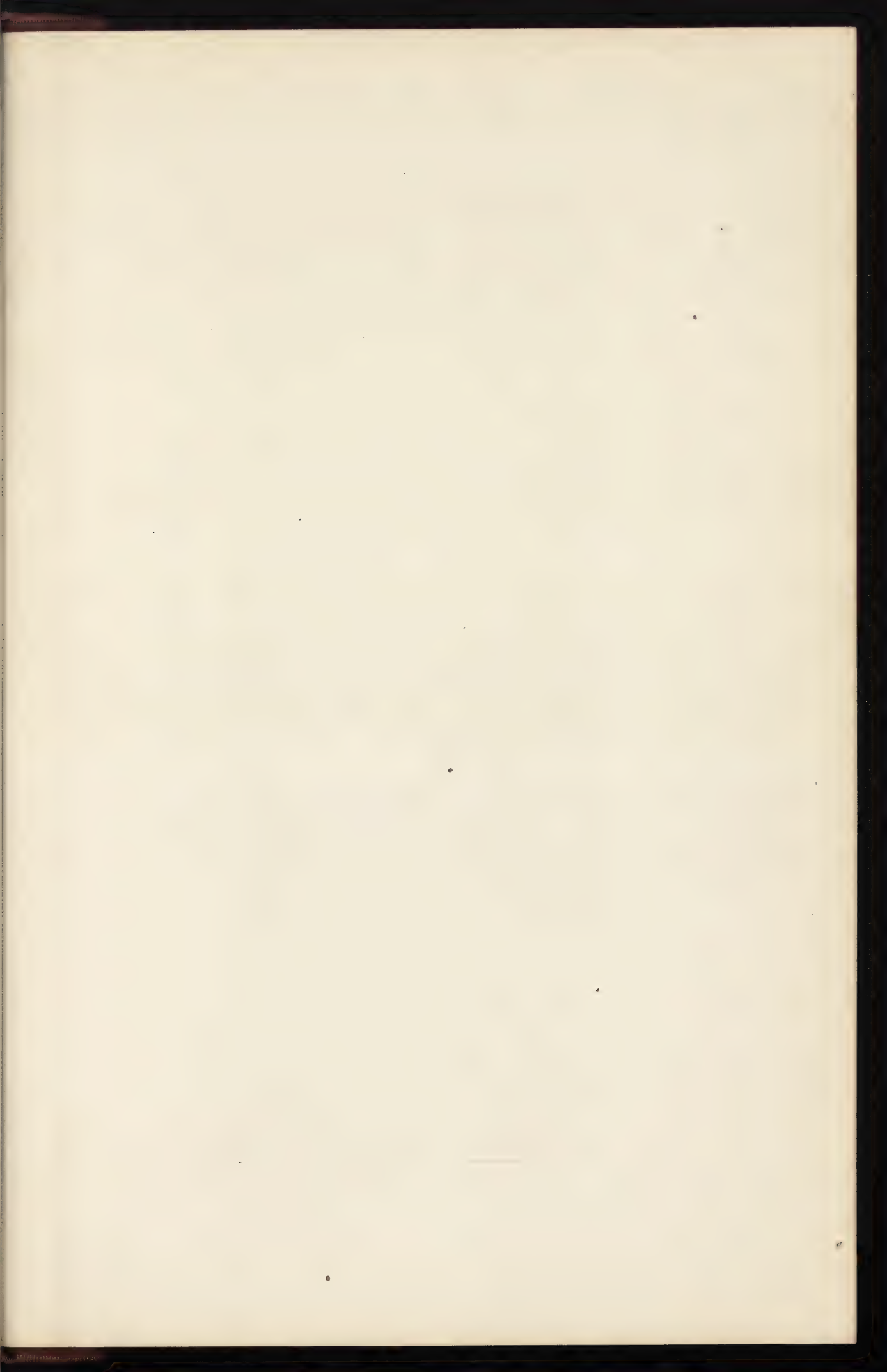
The account is continued on pp. 284-286, and brought down, apparently, to some time in May. Remains of what appears to be a triumphal arch, of late date, have been discovered at the south corner of the Basilica Julia, spanning the road that ran along its northwest side and the back of the temple of Castor and Pollux. That temple is found to have been peripteral. A wall of *opus quadratum*, at the west corner of the Augusteum, belongs, probably, to a *taberna* on the southeast side of the Vicus Tuscus. A drain, built in part of *opus quadratum*, runs diagonally across the Augusteum, from the middle of the southeast side, and joins the *cloaca* of the Vicus Tuscus.

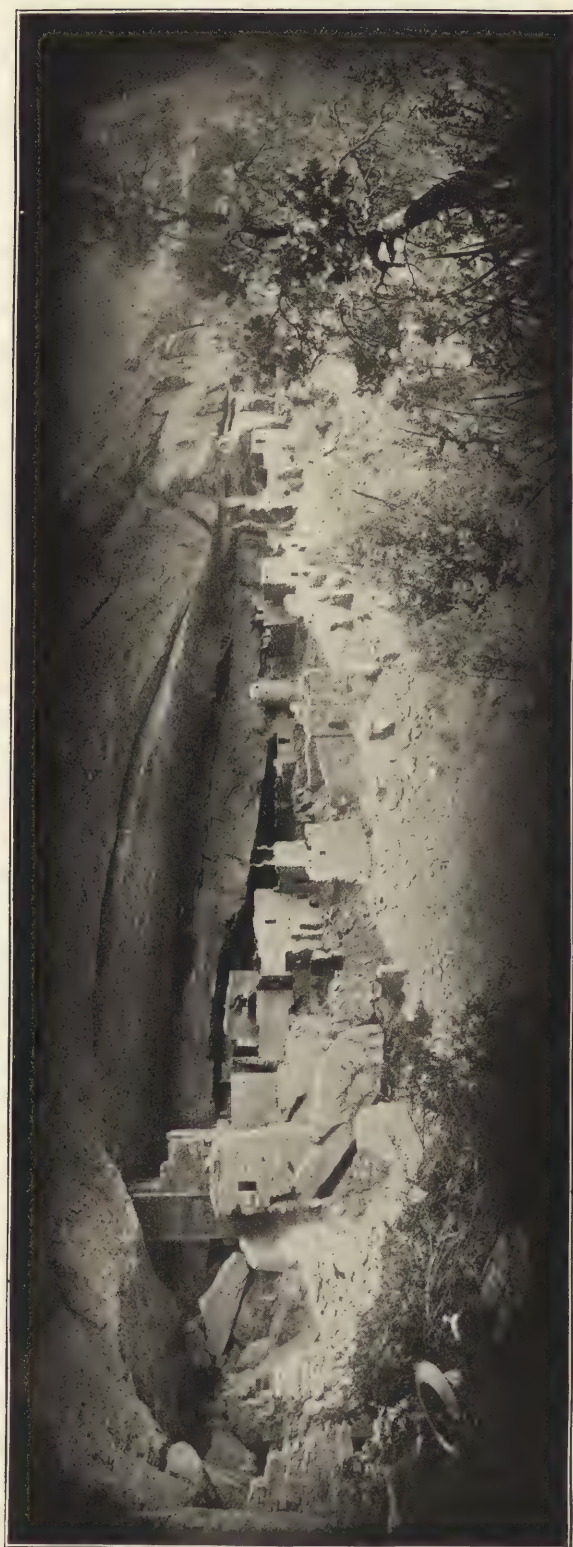
In the Atrium Vestæ are two *piscinæ*, one at the northeast end of the court, the other at the southeast end. The first is the smaller of the two. Under its cement floor a pavement belonging to the earlier house has been found. Other traces of the earlier house have appeared. In late times the colonnade of the Atrium was superseded by a wall with arches, remains of which are traceable. The cipollino columns were sawn into strips, and used as pavements and wall facings. Various rooms have been cleared. In one is an oven; and in another a plate and an amphora are set in the mosaic floor so as to drain into a larger amphora below. At the west corner of the house three flights of stairs lead to the upper floor.

In front of the temple of Antoninus and Faustina, foundations of earlier buildings have been found, together with additional fragments (a part of the head and a piece of drapery) of the statue of Faustina, which stood on a pedestal in the middle of the façade. Near the south angle of the temple, about 12 feet below the level of the Sacra Via, a tomb of the earliest Villanova period was found early in April. It contained a large *dolium* with a conical lid of tufa. Within this was an urn with a lid in the shape of a roof, with the rafters in relief. There were also several other pots. Within the urn were ashes and splinters of bones. This is the earliest monument yet found in the Forum, and must belong to a time before the amalgamation of the different settlements into one city. It is exactly like the tombs found on the Esquiline, the Quirinal, the Viminal, and in the Alban cemeteries.

On the northeast side of the Sacra Via, between the temple of Antoninus and Faustina and the temple of Romulus, remains of a building consisting of a corridor with cells on each side have been found. It may have been a prison. Paving stones have been found *in situ* under the steps of the temple of Venus and Rome, about 10 yards northeast of the Arch of Titus. The course of the Sacra Via before the time of Hadrian is thus determined, but it is not necessary to assume that Hadrian moved the Arch of Titus.







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*From a Photograph made by Dr. Baum, 1902*

**CLIFF PALACE, MESA VERDE, COLORADO**



# RECORDS <sup>OF</sup> THE PAST

DECEMBER, 1902

VOL. I



PART XII

## PUEBLO AND CLIFF DWELLERS OF THE SOUTHWEST

PRELIMINARY REPORT OF THE EXPEDITION OF RECORDS OF THE PAST  
EXPLORATION SOCIETY TO THE SOUTHWEST—1902

BY REV. HENRY MASON BAUM, D.C.L.

THE conflicting views held by many regarding the pre-historic civilization of the Southwestern part of the United States, made it necessary to obtain, as far as possible, reliable information on the following points:—

1. The extent of the occupation of that region by the people who were the builders of the Pueblo and Cliff ruins.
2. The relation, if any, of the Pueblos to the Cliff Dwellers.
3. The time and probable cause of their disappearance and their relation, if any, to the present tribes of North American Indians.

The Expedition was under the personal direction of the Editor, Dr. Baum, who was accompanied part of the time by Dr. William M. Parks and Messrs. C. M. Scarborough, Clark McAdams, John Pfeiffenberger (Architect), and Lorin A. Clancy. The greater part of July, August, September and October was spent in the examination of the ruins of that region. Excavations were not undertaken except in some few cases where it was necessary to get information not otherwise obtainable. The greater part of the country traversed is a barren desert almost devoid of vegetation. Several hundred photographs were made of ruins and localities. The illustrations accompanying this report have been selected to make clear the points under discussion. In order to illustrate the life of that pre-historic people it will be necessary not only to illustrate the different types of ruins but the archaeological and anthropological specimens found in them. This will be done later on.

Evidences of pre-historic habitation are almost everywhere present. Ruins and broken fragments of pottery are scattered over the desert-plains, in the valleys and canyons, and on the mesas of that vast region. It is



VIEW IN THE CANYON DEL MUERTO, ARIZONA

only by a thorough examination of the whole region that one can form an idea of the great number of people that must at one time have inhabited it, probably many millions. There are certain localities where the population was more dense than in others, as is evidenced by the more numerous and extensive ruins in those localities. These ruins, which vary in size, were each able to have domiciled from 50 to 1,000 persons. The architectural construction of many of the Pueblo and Cliff ruins shows that the buildings were erected by master builders well advanced in their trade. The form and decoration of the pottery, the stone implements and woven fabrics show a high degree of culture. Many of the buildings were made of stone laid in adobe and were from 1 to 6 stories in height. The largest of them must have contained upward of a thousand rooms.

It is evident from a careful examination of the Pueblo and Cliff ruins, judging from their mode of construction, pottery and stone implements, woven fabrics and skeletons, that but one race inhabited this region. Both natural and shaped skulls are the same in both classes of ruins. The fact that some of their buildings were erected on the plains, some in valleys and canyons and others on the mesas, does not prove that they were built at different periods and by different races.

The Cliff Dwelling was not intended for a place of refuge or defense. It is true that many of them are almost inaccessible, but their occupants when engaged in warfare, would in time have been forced to leave their places of refuge for food and water and in doing so would have been subjected to assault from above and in the canyon bottom below. It





PUEBLO AND CLIFF RUINS IN CANYON DE CHELLY, ARIZONA

is not an unfrequent occurrence to find almost underneath a Cliff ruin, on the canyon bottom, a Pueblo ruin, both of the same materials and containing pottery, stone implements and skulls of the same character. A notable case of this kind is found in what is known as the Casa Blanca ruin in the Canyon de Chelly in Arizona, the illustration of which accompanies this report. The Pueblos and Cliff Dwellers had the same building traits that people do to-day; some people now build out on the plains, some in valleys and some on commanding eminences. We are, therefore, after a very careful examination of the several classes of ruins led to believe that the Cliff Dwellers and Pueblos were one and the same people.

The destruction of this people must have been brought about by some great catastrophe other than war. The great lava overflows, reaching from Montana down through the Southwest, show that at the time of their occurrence the country must have been uninhabitable. In some cases these lava overflows were of great extent. The question as to the time of their occurrence is one to be answered by the geologist. That the Southwest was inhabited prior to the lava overflows cannot be doubted. Some of the irrigating ditches in Arizona, showing rare engineering skill, are filled with lava. In some of the Pueblo ruins in New Mexico and southern Colorado calcined corn, and timbers used in the construction of buildings, have been found under the lava. It is possible that this people was destroyed in a manner somewhat similar to the inhabitants of Martinique. No dependence is to be placed in Indian traditions unless they are substantiated by indisput-



MOKI INDIAN VILLAGE 7 MILES FROM WALPI, ARIZONA. [See also Walpi, p. 66. This Pueblo crowns the pyramid-like elevation on the distant mesa to the right of Walpi]

able corroborative evidence. Among the Pueblo Indians there is a tradition that the people who occupied the country before their ancestors came there were destroyed by a *wind of fire*. The question of relationship between the present tribes of North American Indians and this people is of great interest, but is difficult of solution. Thus far the evidence is overwhelming against the theory of any relationship whatever. A single skull can never be taken as the type of a race. This mistake has been made by some of the men who have examined the Lansing skull, recently discovered in Kansas, who claim that it closely resembles that of the North American Indian. Something more is necessary than a single skeleton of a man or animal to make it a connecting link. We are not in possession of the evidence necessary to show that there is any relationship between the present tribes of North American Indians and the pre-historic race of the Southwest. The average height of the Pueblo and Cliff Dweller was that of the man of to-day. A skeleton has recently been found in the Canyon del Muerto, a tributary of Canyon de Chelly, showing a perfectly formed man of about thirty years of age and only 33 inches in height, but from this isolated case we cannot claim that a race of dwarfs inhabited the Cliff ruins, for the skeletons, thus far taken from them, average over 5 feet.

The Pueblo ruins, in their architectural construction, vary greatly from the modern Pueblo. It cannot be justly claimed that the Pueblo buildings at Walpi and the neighboring villages were built by the inhabitants now living in them. They have made additions to them, but the original buildings show a much higher civilization than that possessed by the present occupants.



In connection with the above general conclusions that have been reached, it will not be out of place to consider some matters that are of great importance at this time. The American people, we believe, are interested in the antiquities of their country, but few have an idea of the vast historic treasures existing from the Mississippi Valley to the Pacific Ocean linking us with a far distant past. Reference can only be made here to the antiquities of the Southwest, although the mounds of the Ohio and Mississippi Valley were examined previous to our expedition to the Southwest.

We found that the maps published both by the Government and private parties were in many cases misleading. No time should be lost by the Government in having a thorough archæological and topographical survey made of the Southwest. This survey should not only locate the various ruins but indicate their character. Vandalism is almost everywhere evident. The great Cliff ruins of the Mesa Verde, in southern Colorado, have been looted and their relics sold as plunder and widely scattered in public and private collections without any record of the conditions under which they were found. The same is true of the great ruins in other parts of the Southwest. Men have made a business of digging into the most promising parts of ruins for the purpose of obtaining pottery and implements, to sell to the highest bidder. They have broken up the continuity of the life that was lived there. Tourists in visiting the most accessible parts of the region employ laborers to dig for them, that they may take back as souvenirs the precious relics of that ancient people. Recently homesteads have been taken up which embrace extensive ruins, as we believe, for the sole purpose of having the right to excavate for archæological and other treasures to be made merchandise of. This sacrilege cannot be stopped by the creation of National reservations. To protect the antiquities of that region would require nearly all of the Southwest to be made a National reservation. There are, however, three localities that the Government should now, or as soon as our treaties with the Indians will permit, set aside as National parks or reservations. These are the Mesa Verde region of Colorado, lying partly in the Ute reservation, another is that of the Chaco canyon where, within a territory of 5 by 15 miles, are Pueblo and Cliff ruins that must have maintained a population of over 150,000 people. The third and most important of all is that of the Canyons de Chelly and del Muerto and their tributaries. This latter region, we think, is the most interesting pre-historic locality in the United States. The formation of National parks in these cases would not withdraw from sale any agricultural land of any present or future value. From an examination of the ruins west of the Rio Grande del Norte, near Espanola in New Mexico, we are led to believe that it is not advisable for the Government to create a National reservation. While there are some extensive Pueblo ruins in the territory which it is proposed to set aside as a National park, the Cavate dwellings are of chief interest. These the vandals are not likely to disturb. The territory for the most part is well timbered, which is needed for the people living in the Rio Grande Valley.

We shall illustrate in great detail, later, some of the great ruins of the Southwest.



THE DELUGE TABLET



## THE CHALDEAN ACCOUNT OF THE DELUGE\*

BY GEORGE SMITH

A SHORT time back I discovered among the Assyrian tablets in the British Museum, an account of the Flood; which, under the advice of our President, I now bring before the Society.

For convenience of working, I had divided the collection of Assyrian tablets in the British Museum into sections, according to the subject-matter of the inscriptions.

I have recently been examining the division comprising the Mythological and Mythical tablets, and from this section I obtained a number of tablets, giving a curious series of legends and including a copy of the story of the Flood. On discovering these documents, which were much mutilated, I searched over all the collections of fragments of inscriptions, consisting of several thousands of smaller pieces, and ultimately recovered 80 fragments of these legends; by the aid of which I was enabled to restore nearly all the text of the description of the Flood, and considerable portions of the other legends. These tablets were originally at least 12 in number, forming one story or set of legends, the account of the Flood being on the 11 tablet.

Of the inscription describing the Flood, there are fragments of 3 copies containing the same texts; these copies belong to the time of Assurbanipal, or about 660 years B.C., and they were found in the library of that monarch in the palace of Nineveh.

The original text, according to the statements on the tablets, must have belonged to the city of Erech, and it appears to have been either written in, or translated into the Semitic Babylonian, at a very early period. The date when this document was first written or translated, is at present very difficult to decide, but the following are some of the evidences of its antiquity:—

1. The three Assyrian copies present a number of variant readings, which had crept into the text since the original documents were written.
2. The forms of the characters in the original documents were of an ancient type, and the Assyrian copyist did not always know their modern representatives, so he has left some of them in their original hieratic form.
3. There are a number of sentences which were originally glosses explanatory of the subjects; before the Assyrian copies were made these glosses had been already incorporated in the text and their original use lost.

It must here be noted that the Assyrian scribe has recorded for us the divisions of the lines on the original documents.

On examining the composition of the text, some marked peculiarities are apparent, which likewise show its high antiquity. One of these is the constant use of the personal pronoun nominative. In later times this was usually indicated by the verbal form, but not expressed. On comparing the

\*The following article was read by the late George Smith, December 3, 1872, before the Society of Biblical Archæology, and is reprinted from vol. ii, pp. 213-234. Professor Haupt's translation is also given, for the purpose of showing the progress that has been made in translating the Cuneiform writing since the translation made by Mr. Smith, who died while on an expedition to Nineveh in search of the remaining fragments of the tablet and other records.—Ed.

Deluge text with dated texts from the time of Sargon I, it appears to be older than these, and its original composition cannot be placed later than the XVII century B.C.; while it may be much older. The text itself professes to belong to the time of a monarch whose name, written in monograms, I am unable to read phonetically, I therefore provisionally call him by the ordinary values of the signs of his name, Izdubar.

Izdubar, from the description of his reign, evidently belonged to the Mythical period; the legends given in these tablets, the offer of marriage made to him by the goddess Ishtar, the monsters living at the time, Izdubar's vision of the gods, his journey to the translated Sisit, with a curious account of a mythical conquest of Erech when the gods and spirits inhabiting that city, changed themselves into animals to escape the fury of the conqueror; all these things and many others show the unhistorical nature of the epoch. From the heading of the tablets giving his history, I suppose that Izdubar lived in the epoch immediately following the Flood, and I think, likewise, that he may have been the founder of the Babylonian monarchy, perhaps the Nimrod of Scripture. This, however, is pure conjecture; so many fabulous stories were current in Babylonia respecting Izdubar, that his existence may even be doubted. The fragments of the history of Izdubar, so far as I have at present examined them, remind me of the exploits and labors of Hercules, and, on the supposition that our present version of Berosus is correct as to dates, Izdubar may have been placed about 30,000 years B.C. No document can belong to so remote an age. The legends of Izdubar and the account of the Flood must, however, belong to a very early period, for there are references to the story in the bilingual lists which were composed in Babylonia during the early Chaldean empires.

The question might here be asked, "How is it that we find an early Chaldean document from Erech transported to Nineveh, copied and placed in the royal library there?" On this point we can show that it was a common custom for the Assyrians to obtain and copy Babylonian works, and a considerable portion of Assyrian literature consists of these copies of older standard writings.

Assurbanipal, the Assyrian monarch in whose reign the Deluge Tablets were copied, had intimate relations with the city of Erech. Erech remained faithful to him when the rest of Babylonia revolted, and to this city Assurbanipal restored the famous image of the goddess Nana, which had been carried away by the Elamites 1,635 years before.

In order properly to understand the reason why the narrative of the Flood is introduced into the story, it will be necessary to give a short account of the tablets which precede it before giving the translations of the Deluge inscriptions.

It appears that Izdubar, the hero of these legends, flourished as before stated, in the mythical period soon after the Flood, and the center of most of his exploits was the city of Erech, now called Warka, which must have been one of the most ancient cities in the world. Four cities only are mentioned in these inscriptions: Babel,<sup>1</sup> Erech, Surippak and Nipur.<sup>2</sup> Two of these, Babel and Erech, are the first two capitals of Nimrod, and the last

<sup>1</sup>Babylon,—now being excavated by the German Oriental Society.

<sup>2</sup>Now being excavated by the Babylonian Expedition of the University of Pennsylvania.  
—ED.



one, Nipur, according to the Talmud, is the same as Calneh, the fourth city of Nimrod. Of the first 5 tablets of the history of Izdubar I have not recognized any fragments, but in the mass of material which I have collected it is possible that some portions may belong to this part of the story.

The following passage forms the opening of the 6 tablet, and shows the style of the writing.

Before giving the translation I must notice that in various places the tablets are broken and the texts defective; as I cannot point out each of these defective passages, I will endeavor to indicate them by pausing in my reading.

1. . . . Belesu, he despised Belesu
2. like a bull his country he ascended after him
3. he destroyed him, and his memorial perished
4. the country was subdued, and after he took the crown
5. Izdubar put on his crown, and after he took the crown
6. for the favor of Izdubar, the princess Ishtar lifted her eyes.
7. And she spake thus, "Izdubar, thou shalt be husband
8. thy word me shall bind in bonds,
9. thou shalt be husband and I will be thy wife,
10. thou shalt drive in a chariot of Ukni stone and gold,
11. of which its body is gold and splendid its pole
12. thou shalt ride in days of great glory
13. to Bitani, in which is the country where the pine trees grow.
14. Bitani at thy entrance
15. to the Euphrates shall kiss thy feet.
16. There shall be in subjection under thee, kings, lords, and princes.
17. The tribute on the mountains and plains they shall bring to thee, taxes
18. they shall give thee, thy herds and flocks shall bring forth twins.
19. . . . the mule shall be swift
20. . . . in the chariot shall be strong and not weak
21. . . . in the yoke. A rival shall not be permitted."

Ishtar, who was the same as Venus, was queen of beauty, but somewhat inconstant, for she had already a husband, a deity, called the "Son of Life"; she, however, led her husband a poor life, and of this Izdubar reminds her in his answer to her offer.

One of the next exploits of Izdubar and Heabani his servant was the conquest of the winged bull, a monster supposed to have existed in those days; but I must pass over this and other matters, to approach the subject of the Flood.

In the course of time, Izdubar, the conqueror of kings and monsters, the ruler of peoples, fell into some illness and came to fear death, man's last great enemy. Now, the Babylonians believed in the existence of a patriarch named Sisit, the Xisuthrus of the Greeks, who was supposed to have been translated and to have attained to immortality without death. Izdubar, according to the notions of the time, resolved to seek Sisit, to ascertain how he became immortal, that he might attain to a similiar honor. The passage reads as follows:—

1. Izdubar to Heabani his servant
2. bitterly lamented and lay down on the ground
3. I the account took from Heabani and
4. weakness entered into my soul
5. death I feared and I lay down on the ground
6. To find Sisit son of Ubaratutu

7. and the road I was taking and joyfully I went
8. to the shadows of the mountains I took at night
9. the gods I saw and feared
10. . . . . to Sin I prayed
11. and before the gods my supplication came
12. peace they gave unto me
13. and they sent unto me a dream.

The dream of Izdubar is unfortunately very mutilated, few fragments of it remaining, and his subsequent journey is not in much better condition. It appears that he went through a number of adventures, and three men are represented, in one place, to be telling each other the story of these adventures.

After long wanderings, Izdubar falls into company with a seaman named Urhamsi, a name similar to the Orchemus of the Greeks. Izdubar and Urhamsi fit out a vessel to continue the search for Sisit, and they sail along for a month and 15 days, and arrive at some region near the mouth of the Euphrates, where Sisit was supposed to dwell. In this journey by water there are fresh adventures and, in their course, Urhamsi tells Izdubar of the waters of death, of which he states, "The waters of death thy hands will not cleanse."

At the time when Izdubar and Urhamsi are approaching him, Sisit is sleeping. The tablet here is too mutilated to tell us how they came to see each other, but it appears probable from the context that Sisit was seen in company with his wife, a long distance off, separated from Izdubar by a stream.

Unable to cross this water which divided the mortal from the immortal, Izdubar appears to have called to Sisit and asked his momentous question on life and death. The question asked by Izdubar and the first part of the answer of Sisit are lost by the mutilation of the tablet. The latter part of the speech of Sisit, which is preserved, relates to the danger of death, its universality, etc. It winds up as follows: "The goddess of Mamitu, the maker of fate, to them their fate has appointed, she has fixed death and life, but of death the day is not known."

These words, which close the first speech of Sisit, bring us to the end of the 10 tablet; the next one, the 11, is the most important of the series, as it contains the history of the Flood.

The 11 tablet opens with a speech of Izdubar, who now asks Sisit how he became immortal, and Sisit, in answering, relates the story of the Flood and his own piety as the reason why he was translated.

The following is the translation of this tablet:—

1. Izdubar after this manner said Sisit afar off,
2. " . . . . . Sisit
3. The account do thou tell to me,
4. The account do thou tell to me, .
5. . . . . to the midst to make war
6. I come up after thee.
7. say how thou hast done it, and in the Circle of the gods life thou hast gained."
8. Sisit after this manner said to Izdubar,
9. "I will reveal to thee, Izdubar, the concealed story,
10. and the wisdom of the gods I will relate to thee.
11. The city Surippak the city which thou hast established . . . . . placed



12. was ancient, and the gods within it
13. dwelt, a tempest . . . . . their god, the great gods
14. . . . . Anu
15. . . . . Bel
16. . . . . Ninip
17. . . . . lord of Hades
18. their will reveal in the midst of . . . . .
19. . . . . hearing and he spoke to me thus
20. Surippakite son of Ubaratutu
21. make a great ship for thee . . . . .
22. I will destroy the sinner and life . . . . .
23. cause to go in the seed of life all of it, to preserve them
24. the ship which thou shalt make
25. . . . . cubits shall be the measure of its length, and
26. . . . . cubits the amount of its breadth and its height.
27. Into the deep launch it."
28. I perceived and said to Hea my lord,
29. "Hea my lord this that thou commandest me
30. I will perform, it shall be done.
31. . . . . army and host.
32. Hea opened his mouth and spake, and said to me his servant,
33. . . . . thou shalt say unto them,
34. . . . . he has turned from me and
35. . . . . fixed . . . . .

Here there are about 15 lines entirely lost. The absent passage probably described part of the building of the ark.

51. it . . . . .
  52. which in . . . . .
  53. strong . . . . . I brought
  54. on the fifth day . . . . . it
  55. in its circuit 14 measures . . . . . over it
  56. 14 measures it measured . . . . . over it
  57. I placed its roof on it . . . . . I inclosed it
  58. I rode in it, for the sixth time I . . . . . for the seventh time
  59. into the restless deep . . . . . for the . . . . . time
  60. its planks the waters within it admitted,
  61. I saw breaks and holes . . . . . my hand placed
  62. three measures of bitumen I poured over the outside,
  63. three measures of bitumen I poured over the inside,
  64. three measures of the men carrying its baskets took . . . . . they
- fixed an altar.
65. I inclosed the altar . . . . . the altar for an offering
  66. two measures the altar . . . . . Pazziru the pilot
  67. for . . . . . slaughtered oxen
  68. of . . . . . in that day also
  69. . . . . altar and grapes
  70. . . . . like the waters of a river and
  71. . . . . like the day I covered and
  72. . . . . when . . . . . covering my hand placed,
  73. . . . . and Shamas . . . . . the material of the ship completed,
  74. . . . . strong and
  75. reeds I spread above and below.
  76. . . . . went in two-thirds of it.
  77. All I possessed I collected it, all I possessed I collected of silver,
  78. all I possessed I collected of gold,
  79. all I possessed I collected of the seed of life, the whole

80. I caused to go up into the ship, all my male and female servants,  
 81. the beasts of the field, the animals of the field, and the sons of the army  
 all of them, I caused to go up.  
 82. A flood Shamas made, and  
 83. he spake saying in the night, 'I will cause it to rain from heaven heavily;  
 84. enter to the midst of the ship, and shut thy door,'  
 85. A flood he raised, and  
 86. he spake saying in the night, 'I will cause it to rain from heaven heavily  
 87. In the day that I celebrated his festival  
 88. the day which he had appointed; fear I had,  
 89. I entered to the midst of the ship, and shut my door;  
 90. to guide the ship, to Buzursadirabi the pilot,  
 91. the palace I gave to his hand.  
 92. The raging of a storm in the morning  
 93. arose, from the horizon of heaven extending and wide  
 94. Vul in the midst of it thundered, and  
 95. Nebo and Saru went in front;  
 96. the throne bearers went over the mountains and plains;  
 97. the destroyer Nergal overturned;  
 98. Ninip went in front, and cast down;  
 99. the spirits carried destruction;  
 100. in their glory they swept the earth;  
 101. of Vul the flood, reached to heaven;  
 102. the bright earth to a waste was turned;  
 103. the surface of the earth, like . . . . it swept;  
 104. it destroyed all life, from the face of the earth . . . .  
 105. the strong tempest over the people, reached to heaven.  
 106. Brother saw not his brother, it did not spare the people. In heaven  
 107. the gods feared the tempest, and  
 108. Sought refuge; they ascended to the heaven of Anu.  
 109. The gods, like dogs with tails hidden, crouched down.  
 110. Spake Ishtar a discourse,  
 111. uttered the great goddess her speech  
 112. 'The world to sin has turned, and  
 113. then I in the presence of the gods prophesied evil;  
 114. When I prophesied in the presence of the gods evil,  
 115. to evil were devoted all my people, and I prophesied  
 116. thus, 'I have forgotten man and let him not  
 117. like the sons of the fishes fill the sea.'  
 118. The gods concerning the spirits, were weeping with her;  
 119. the gods in seats, seated in lamentation;  
 120. covered were their lips for the coming evil.  
 121. Six days and nights  
 122. passed, the wind tempest and storm overwhelmed,  
 123. on the seventh day in its course, was calmed the storm, and all the  
 tempest.  
 124. which had destroyed like an earthquake,  
 125. quieted. The sea had caused to dry, and the wind and tempest ended.  
 126. I was carried through the sea. The doer of evil,  
 127. and the whole of mankind who turned to sin,  
 128. like reeds their corpses floated.  
 129. I opened the window and the light broke in, over my refuge  
 130. it passed, I sat still and  
 131. over my refuge came peace.  
 132. I was carried over the shore, at the boundary of the sea  
 133. For twelve measures it ascended over the land.



134. To the country of Nizir, went the ship;  
 135. the mountain of Nizir stopped the ship, and to pass over it, it was not able.
136. The first day and the second day, the mountains of Nizir the same.  
 137. The third day and the fourth day, the mountains of Nizir the same.  
 138. The fifth and the sixth, the mountains of Nizir the same.  
 139. On the seventh day in the course of it.  
 140. I sent forth a dove, and it left. The dove went and searched and  
 141. a resting place it did not find, and it returned.  
 142. I sent forth a swallow, and it left. The swallow went and searched and  
 143. a resting place it did not find, and it returned.  
 144. I sent forth a raven, and it left.  
 145. The raven went, and the corpses on the waters it saw, and  
 146. it did eat, it swam, and wandered away, and did not return.  
 147. I sent the animals forth to the four winds, I poured out a libation  
 148. I built an altar on the peak of the mountain,  
 149. by seven herbs I cut,  
 150. at the bottom of them, I placed reeds, pines, and simgar.  
 151. The gods collected at its burning, the gods collected at its good burning.  
 152. the gods like sumbe over the sacrifice and gathered,  
 153. From of old also, the great God in his curse,  
 154. the great brightness of Anu had created; when the glory  
 155. of these gods, as of Ukni stone, on my countenance I could not endure;  
 156. in those days I prayed that forever I might not endure.  
 157. May the gods come to my altar;  
 158. may Bel not come to my altar  
 159. for he did not consider and had made a tempest  
 160. and my people he had consigned to the deep  
 161. from of old, also Bel in his course  
 162. saw the ship, and went Bel with anger filled to the gods' spirits;  
 163. let not anyone come out alive, let not a man be saved from the deep.  
 164. Ninip his mouth open and spake, and said to the warrior Bel,  
 165. 'who then will be saved,' Hea the words understood,  
 166. and Hea knew all things,  
 167. Hea his mouth opened and spake, and said to the warrior Bel,  
 168. 'Thou prince of the gods, warrior,  
 169. when thou art angry a tempest thou makest,  
 170. the doer of sin did his sin, the doer of evil did his evil,  
 171. may the exalted not be broken, may the captive not be delivered;  
 172. Instead of thee making a tempest, may lions increase and men be reduced;  
 173. instead of thee making a tempest, may leopards increase, and men be reduced;  
 174. instead of thee making a tempest, may a famine happen, and the country be destroyed;  
 175. instead of thee making a tempest, may pestilence increase, and men be destroyed.'  
 176. I did not peer into the wisdom of the gods,  
 177. reverent and attentive a dream they sent, and the wisdom of the gods he heard.  
 178. When his judgment was accomplished, Bel went up to the midst of the ship,  
 179. he took my hand and brought me out, me  
 180. he brought out, he caused to bring my wife to my side,  
 181. he purified the country, he established in a covenant and took the people  
 182. in the presence of Sisit and the people.

183. When Sisit and his wife and the people to be like the gods were carried away,  
 184. then dwelt Sisit in a remote place at the mouth of the rivers.  
 185. They took me in a remote place at the mouth of the rivers they seated me.  
 186. When to thee whom the gods have chosen thee, and  
 187. the life which thou has sought after, thou shalt gain  
 188. this do, for six days and seven nights  
 189. like I say also, in bonds bind him  
 190. the way like a storm shall be laid upon him."  
 191. Sisit after this manner, said to his wife  
 192. "I announce that the chief who grasps at life  
 193. the way like a storm shall be laid upon him."  
 194. His wife after this manner, said to Sisit afar off.  
 195. "Purify him and let the man be sent away,  
 196. the road that he came, may he return in peace,  
 197. the great gate open, and may he return to his country."  
 198. Sisit after this manner, said to his wife,  
 199. "The cry of a man alarms thee,  
 200. this do, his scarlet cloth place on his head."  
 201. And the day when he ascended the side of the ship  
 202. she did, his scarlet cloth she placed on his head,  
 203. and the day when he ascended on the side of the ship,

The next four lines describe seven things done to Izdubar before he was purified. The passage is obscure and does not concern the Flood, so I have not translated it.

208. Izdubar after this manner said to Sisit afar off,  
 209. "This way, she has done, I come up  
 210. joyfully, my strength thou givest me."  
 211. Sisit after this manner said to Izdubar  
 212. . . . thy scarlet cloth  
 213. . . . I have lodged thee  
 214. . . .

The 5 following lines, which are mutilated, refer again to the seven matters for purifying Izdubar; this passage, like the former one, I do not translate.

219. Izdubar after this manner said to Sisit afar off  
 220. . . . Sisit to thee may we not come.

From here the text is much mutilated, and it will be better to give a general account of its contents than to attempt a strict translation, especially as this part is not so interesting as the former part of the tablet.

Lines 221 to 223 mention someone who was taken and dwelt with Death. Lines 224 to 235 give a speech of Sisit to the seaman Urhamsi, directing him how to cure Izdubar, who from the broken passages, appears to have been suffering from some form of skin disease. Izdubar was to be dipped in the sea, when beauty was to spread over his skin once more. In lines 236 to 241 the carrying out of these directions and the cure of Izdubar are recorded.

The tablet then reads as follows:—

242. Izdubar and Urhamsi rode in the boat  
 243. where they placed them they rode  
 244. His wife after this manner said to Sisit afar off,  
 245. "Izdubar goes away, he is satisfied, he performs  
 246. that which thou hast given him and returns to his country."



247. And he heard, and after Izdubar  
 248. he went to the shore  
 249. Sisit after this manner said to Izdubar,  
 250. "Izdubar thou goest away thou art satisfied, thou performest  
 251. That which I have given thee and thou returnest to thy country  
 252. I have revealed to thee Izdubar the concealed story."

Lines 253 to 262, which are very mutilated, give the conclusion of the speech of Sisit, and then state that after hearing it, Izdubar took great stones and piled them up as a memorial of these events.

Lines 263 to 289 give in a very mutilated condition subsequent speeches and doings of Izdubar and Urhamsi. In this part journeys are mentioned of 10 and 20 kaspu, or 70 and 140 miles; a lion is also spoken of, but there is no further allusion to the Flood. These lines close the inscription, and are followed by a colophon which gives the heading of the next tablet, and the statement that this (the Flood Tablet) is the 11 tablet in the series giving the history of Izdubar, and that it is a copy of the ancient inscription.

Before entering into the details of the tablet, I must first refer to the accounts of the Deluge given in the Bible, and by Berosus, the Chaldean historian, as I shall have to compare these with the Cuneiform record.

The Biblical account of the Deluge, contained in the 6 to the 9 chapters of Genesis, is, of course, familiar to us all, so I will only give the outline of the narrative.

According to the Book of Genesis, as man multiplied on the earth, the whole race turned to evil, except the family of Noah. On account of the wickedness of man, the Lord determined to destroy the world by a flood, and gave command to Noah to build an ark, 300 cubits long, 50 cubits broad, and 30 cubits high. Into this ark Noah entered according to the command of the Lord, taking with him his family, and pairs of each animal. After seven days the Flood commenced in the 600 year of Noah, the 17 day of the second month, and after 150 days the ark rested upon the mountains of Ararat, on the 17 day of the 7 month. We are then told that after 40 days Noah opened the window of the ark and sent forth a raven which did not return. He then sent forth a dove, which finding no rest for the sole of her foot, returned to him. Seven days after he sent forth the dove a second time, and she returned to him with an olive leaf in her mouth. Again after 7 days, he sent forth the dove which returned to him no more. The Flood was dried up in the 601 year, on the first day of the first month, and on the 27 day of the 2 month, Noah removed from the ark and afterward built an altar and offered sacrifices.

The Chaldean account of the Flood, as given by Berosus, I have taken from Cory's *Ancient Fragments*, pp. 26-29, as follows:—

After the death of Ardates, his son Xisuthrus reigned 18 sari. In his time happened a great Deluge, the history of which is thus described: The Deity, Cronos, appeared to him in a vision, and warned him that upon the 15 day of the month Daesius there would be a flood, by which mankind would be destroyed. He, therefore, enjoined him to write a history of the beginning, procedure and conclusion of all things; and to bury it in the City of the sun at Sippara; and to build a vessel, and take with him into it his friends and relations; and to convey on board everything necessary to sustain life, together with all the different animals, both birds and quadrupeds, and trust himself fearlessly to the deep. Having asked the Deity whither he was to sail, he was answered, "To the Gods"; upon which he offered up a prayer for the good of mankind. He then obeyed the Divine admoni-

tion, and built a vessel five stadia in length and two in breadth. Into this he put everything which he had prepared: and last of all conveyed into it his wife, his children and his friends.

After the Flood had been upon the earth, and was in time abated, Xisuthrus sent out birds from the vessel, which, not finding any food nor any place whereupon they might rest their feet, returned to him again. After an interval of some days he sent them forth a second time, and they now returned with their feet tinged with mud. He made a trial a third time with these birds, but they returned to him no more: from whence he judged that the surface of the earth had appeared above the waters. He, therefore, made an opening in the vessel, and upon looking out found that it was stranded upon the side of some mountain, upon which he immediately quitted it with his wife, his daughter and the pilot. Xisuthrus then paid his adoration to the earth, and, having constructed an altar, offered sacrifice to the gods, and, with those who had come out of the vessel with him, disappeared.

They, who remained within, finding that their companions did not return, quitted the vessel with many lamentations, and called continually on the name of Xisuthrus. Him they saw no more; but they could distinguish his voice in the air, and could hear him admonish them to pay due regard to religion; and likewise informed them that it was upon account of his piety that he was translated to live with the gods, that his wife and daughter and the pilot had obtained the same honor. To this he added that they should return to Babylonia, and, as it was ordained, search for the writings at Sippara, which they were to make known to all mankind; moreover, that the place wherein they then were was the land of Armenia.

The rest having heard these words, offered sacrifices to the gods, and, taking circuit, journeyed toward Babylonia.

The vessel being thus stranded in Armenia, some part of it yet remains in the Corcyraean mountains.

In pp. 33 and 34 of Cory's Fragments there is a second version, as follows:—

And the Sisithrus. To him the Deity Cronos foretold that on the 15 day of the month Daesius there would be a deluge of rain: and he commanded him to deposit all the writings whatever which were in his possession, in the City of the Sun at Sippara. Sisithrus, when he had complied with these commands, sailed immediately to Armenia, and was presently inspired by God. Upon the 3 day after the cessation of the rain Sisithrus sent out birds, by way of experiment, that he might judge whether the Flood had subsided. But the birds passing over an unbounded sea, without finding any place of rest, returned again to Sisithrus. This he repeated with other birds. And when upon the third trial he succeeded, for the birds then returned with their feet stained with mud, and the gods translated him from among men. With respect to the vessel, which yet remains in Armenia, it is a custom of the inhabitants to form bracelets and amulets of its wood.

There are several other accounts of the Flood in the traditions of different other nations; these, however, are neither so full nor so precise as the account of Berosus, and their details so far as they are given differ more from the Biblical narrative, so I shall not notice them now, but pass at once to the examination of the text.

In comparing the text of the Deluge Tablet with the accounts in the Bible and Berosus, the first point that meets us is the consideration of the proper names. This is the least satisfactory part of the subject, for, while the Greek forms show variant readings and have evidently been corrupted, the Cuneiform names, on the other hand being written mostly in monograms are difficult to render phonetically. The father of the hero of the Flood bears in the inscription the name Ubarra-tutu which ought to corre-



spond to one of the Greek forms, Otiártēs or Ardátēs, the resemblance, however, cannot be called a close one. The hero of the Flood I have provisionally called Sisit; he corresponds, of course, to the Greek Xisuthrus, but no comparison of the two names can be made until we know the phonetic reading of the Cuneiform name. Neither the Cuneiform nor the Greek names appear to have any connection with the Biblical Lamech and Noah. In the opening of the account of the Flood there is a noticeable difference between the Cuneiform and Biblical narratives, for while in the Jewish account one God only is mentioned, the Cuneiform Inscription mentions all the principal gods of the early Babylonian Pantheon as engaged in bringing about the Flood.

The Cuneiform account agrees with the Biblical narrative in making the Deluge a divine punishment for the wickedness of the world; this point is omitted in the Greek accounts of Berosus.

The gods having resolved on the Deluge, the deity whom we have hitherto provisionally called Hea, announces the coming event to Sisit. Now, in the account of Berosus, the god who announces the Deluge is stated to be Cronos; so this passage gives us the Cuneiform name of the deity identified by the Greeks with Cronos. The Greek account states that the communication of the coming Deluge was made in a dream. From the context it is probable that the Cuneiform account stated the same, but the text is here mutilated so that the point cannot be decided.

The dimensions of the vessel in the Inscription are unfortunately lost by a fracture which has broken off both numbers, the passage which is otherwise complete, shows that the dimensions were expressed in cubits as in the Biblical account, but while Genesis makes the ark 50 cubits broad and 30 cubits high, the Inscription states that the height and breadth were the same.

The greater part of the description of the building of the ark is lost. In the latter part of the account which is preserved, there is mention of the trial of the vessel by launching it into the sea, when defects being found which admitted the water, the outside and inside were coated with bitumen. These details have no parallel either in the Bible or Berosus. The description of the filling of the ark agrees in general with the two other accounts, but it differs from Genesis in not mentioning the sevens of clean animals and in including others beside the family of the builder.

The month and day when the Deluge commenced, which are given in the Bible and Berosus, are not mentioned in the text, unless the 5 day, mentioned in a mutilated passage, is part of this date.

The description of the Flood in the Inscription is very vivid, it is said to have been so terrible that the gods fearing it, ascended to the heaven of Anu, that it is the highest and furthest heaven, the destruction of the human race is recorded, and the corpses of the wicked are said to have floated on the surface of the Flood.

With regard to the duration of the Deluge, there appears to be a serious difference between the Bible and the Inscription. According to the account in the Book of Genesis, the Flood commenced on the 17 day of the 2 month, the ark rested on Ararat after 150 days on the 17 day of the 7 month, and the complete drying up of the Flood was not until the 27 day of the 2 month in the following year. The Inscription, on the

other hand, states that the Flood abated on the 7 day, and that the ship remained 7 days on the mountain before the sending out of the birds.

On this point it must be remarked that some Biblical critics consider that there are two versions of the Flood story in Genesis itself, and that these two differ as to the duration of the Flood.

The Greek account of Berosus is silent as to the duration of the Deluge.

With regard to the mountain on which the ark rested there is a difference between the Bible and the Inscription, which is more apparent than real. The Book of Genesis states that the ark rested on the mountains of Ararat. According to the popular notion this refers to the mountain of Ararat, in Armenia; but these mountains may have been anywhere within the ancient territory of Ararat, and some commentators looking at the passage in Berosus, where the ark is stated to have rested in the Gordiæan mountains, have inclined to place the mountain referred to in the Kurdish mountains, east of Assyria. In accordance with this indication the Inscription states that the ship rested on the mountain of Nizir.

Now, the position of Nizir can be determined from the Inscription of Assur-nazir-pal, king of Assyria. He made an expedition to this region, and starting from an Assyrian city, near Arbela, crossed the Lower Zab, and marching eastward between latitudes 35 and 36, arrived at the mountains of Nizir. These mountains of Nizir thus lay east of Assyria, but they form part of a series of mountain chains extending to the northwest into Armenia.

The vessel being stranded on the mountain, the Bible, Berosus and the Inscription, all agree that trial was made by birds in order to ascertain if the Flood had subsided; but in the details of these trials there are curious differences in all three narratives. According to the Book of Genesis, a raven was sent out first, which did not return; a dove was sent next, which finding no resting place returned to Noah. Seven days later the dove was sent out again, and returned with an olive leaf; and 7 days after, on the dove being sent out again, it returned no more.

The account of Berosus mentions the sending out of the birds, but does not mention what kinds were tried. On the first trial the birds are said to have returned, and on the second trial likewise, this time with mud on their feet. On the third occasion they did not return.

The Inscription states that, first, a dove was sent out, which finding no resting place returned. On the second occasion a swallow was sent out, which also returned. The third time a raven was sent out, which feeding on the corpses floating on the water, wandered away and did not return. Thus, the Inscription agrees with the Bible as to the sending out of the raven and the dove, but adds to these the trial of the swallow, which is not in Genesis. In the number of the trial it agrees with Berosus, who has three, while Genesis has four. On the other hand, there is no mention of the dove returning with an olive leaf as in Genesis, and of the birds having their feet stained with mud, as in Berosus.

In the statement of the building of the altar, and offering sacrifice after leaving the ark, all three accounts agree; but in the subsequent matter there is an important difference between the Bible and the Inscription, for while the Bible represents Noah as living for many years after the Flood, the Inscription, on the other hand, agrees with Berosus in making Sisit to be



translated like the gods. This translation in the Bible recorded of Enoch, the ancestor of Noah.

On reviewing the evidence it is apparent that the events of the Flood narrated in the Bible and the Inscription are the same, and occur in the same order; but the minor differences in the details show that the Inscription embodies a distinct and independent tradition.

In spite of a striking similarity in style, which shows itself in several places, the two narratives belong to totally distinct people. The Biblical account is the version of an inland people, the name of the ark in Genesis means a chest or box, and not a ship; there is no notice of the sea, or of launching, no pilots are spoken of, no navigation is mentioned. The Inscription, on the other hand, belongs to a maritime people, the ark is called a ship, the ship is launched into the sea, trial is made of it, and it is given in charge of a pilot.

The Cuneiform Inscription, after giving the history of the Flood down to the sacrifice of Sisit, when he came out of the ark, goes back to the former part of the story, and mentions the god Bel in particular as the maker of the tempest or deluge; there appears to be slight inconsistency between this and the former part of the Inscription which suggests the question whether the Chaldean narrative itself may not have been compiled from two distinct and older accounts.

It is remarkable that the oldest traditions of the early Babylonians seem to center around the Persian Gulf. From this sea, Oannes, the fish god, is supposed to have arisen, and the composite monsters who followed them in the antediluvian period came from the same region. Into this sea the ark was launched, and after the subsiding of the Deluge when Sisit was translated, he dwelt in this neighborhood. To this sea also came the great hero Izdubar, and was cured, and here he heard the story of the Flood.

In conclusion, I would remark that this account of the Deluge opens to us a new field of inquiry in the early part of the Bible history. The question has often been asked, "What is the origin of the accounts of the antediluvians, with their long lives so many times greater than the longest span of human life? Where was Paradise, the abode of the first parent of mankind? From whence comes the story of the Flood, of the ark, of the birds?" Various conflicting answers have been given to these important questions, while evidence on these subjects before the Greek period has been entirely wanting. The Cuneiform Inscriptions are now shedding a new light on these questions, and supplying material which future scholars will have to work out. Following this Inscription, we may expect many other discoveries throwing light on these ancient periods, until we are able to form a decisive opinion on the many great questions involved. It would be a mistake to suppose that with the translation and commentary on an Inscription like this the matter is ended. The origin, age, and history of the legend have to be traced, and it has to be compared with the many similar stories current among various nations.

All these accounts, together with considerable portions of ancient mythologies have, I believe, a common origin in the Plains of Chaldea. This country, the cradle of civilization, the birthplace of the arts and sciences, for 2,000 years has been in ruins; its literature, containing the most precious records of antiquity, is scarcely known to us, except from

the texts the Assyrians copied, but beneath its mounds and ruined cities, now awaiting exploration, lie, together with older copies of this Deluge text, other legends and histories of the earlier civilization in the world.

THE FOLLOWING TRANSLATION OF THE XI TABLE OF THE EPIC OF NIMROD IS BY PROFESSOR PAUL HAUPT, AS QUOTED BY THE REV. C. J. BALL, IN *Light from the East*.

- Gen. 6. 7. Nûh-napishtim saith to him, even to Gilgamesh:  
Let me unfold to thee, Gilgamesh, a secret story,  
And the decree of the gods let me tell thee!  
Shurippak, a city thou knowest,—  
On the banks of the Euphrates it lieth;  
That city was full of violence, and the gods within it—
- Gen. 6. 17. To make a flood their heart urged them, even the mighty  
gods.  
Their father (*i.e.* adviser: Gen. 45. 8) was Anu,  
Their counsellor the warrior Bel,  
Their throne-bearer<sup>1</sup> Ninib,  
Their champion Innugi.  
Nin-igi-azeg, even, Ia, had sat (*or* lurked) near them, and  
Their talk (*or* purpose) he repeated to the reed-fence:  
“Reed-fence, reed-fence! House-wall, house-wall!<sup>2</sup>  
Reed-fence, listen! and house-wall give heed!  
Gen. 6. 14. Man of Shurippak, son of Ubara-Tutu,  
Pull down the house, and build a ship!  
Leave goods, seek life!  
Property forsake, and life preserve!<sup>3</sup>
- Gen. 6. 19. vv. 15. 16. Cause seed of life of every sort to go up into the ship!  
The ship which thou shalt build,  
Exact be its dimensions,  
Equal be its breadth and its length!  
On the ocean launch it!”
- Gen. 6. 22; 7. 5. I understood, and said unto Ia my lord:  
“The command, my lord, which thou spakest thus,  
I honour, I will do [it]!  
[But wh]at shall I answer the city, the people and the  
elders?”  
Ia framed his mouth and spaketh,  
He saith unto me, his slave:  
“[Ans]wer thus shalt thou make unto them:  
‘Bel hath rejected and hateth me, and  
Gen. 4. 14. I may no longer dwell in yo[ur cit]y, and  
Toward Bel’s ground I may no longer turn my face: but  
I will [go] down to the ocean, [and] with [Ia] my [lord]  
will I dwell!  
[Upon] you it will rain heavily. . . . ’”  
[About 12 lines are broken, or have entirely disappeared.]  
On the fifth day I laid down the frame of it;  
At its bulwarks (?) its sides were 140 cubits high;

<sup>1</sup>*i.e.* the cherub on which they rode forth in wrath [Ps. 18. 10; Isa. 19. 1; Ezek. 1. 4. *sqq.*].

<sup>2</sup>The fence and wall of Nûh-napishtim’s homestead on the river bank.

<sup>3</sup>This looks like a variant rendering of the previous line, and may therefore imply an original Sumero-Accadian text, of which the extant Assyrian is a translation.



- The border of its top equaled 140 cubits (*i.e.* every way).<sup>1</sup>  
 I laid down its form, I figured (*or* fashioned) it:  
 I constructed it in six stories,  
 Dividing it into seven compartments;  
 Its floors I divided into nine chambers each.  
 Water-pegs inside it I drove it in (to stop leaks).  
 I chose a mast (*or* rudder-pole), and supplied what was  
 necessary:
- Gen. 6. 16. Six sars of bitumen I poured over the outside  
 Three sars of bitumen [I poured over] the inside.  
 While the basket-bearers were carrying three sars of oil  
 abroad,  
 I reserved one sar of oil, which the libations (?) con-  
 sumed;  
 Two sars of oil the shipmen stowed away.  
 For [the men's food] I slaughtered oxen;  
 I slew [small cattle] every day;  
 New wine, sesame wine, oil and grape wine,  
 The people [I gave to drink], like the water of a river.  
 A feast [I made], like New Year's Day. . . .  
 [Five lines.]  
 [With all that I possessed I fr]eighted it;  
 With all that I had of silver I freighted it;  
 With all that I had of gold I freighted it;  
 With all that I had of seed of life of every sort [I  
 freighted it];  
 I put on board all my family and my clan;  
 Cattle of the field, wild beasts of the field, all the crafts-  
 men, I put on board.
- Gen. 7. 4. A time Samas appointed (saying):—  
 "When the Lord of Storm at eventide causeth the heavens  
 to rain heavily,  
 Enter into the ship, and shut thy door!"
- Gen. 7. 1. That time came:  
 The Lord of Storm at eventide caused the heavens to rain  
 heavily.  
 I dreaded the appearance of day;  
 I was afraid of beholding day<sup>2</sup>:  
 I entered the ship and shut me my door.  
 For the steering of the ship, to Bezur-Bel the shipman  
 The great vessel (deckhouse?) I handed over, with its  
 freight (*or* gear).
- I Kings 18. 44. sqq. When the first light of dawn appeared,  
 There rose from the foundation of heaven a black cloud:  
 Rimmon in the heart of it thunders, and  
 Nebo and Merodach march before;  
 The Throne-bearers march o'er mountain and plain.  
 The mighty Dibbarra (*or* Girra) wrenches away the helm;  
 Ninib goes on, pouring out ruin.

<sup>1</sup>Thus called a ship, it seems to have been a perfect cube or box of 140 cubits each way. Cf. the Hebrew name *tebah*-chest, "ark." See also Rev. 21. 16, 17. The Hebrew *tēbāh* may be connected with the Sumerian *Dub*, "to be quieted, appeased," "to rest." The ships or arks in which the Chaldean and Egyptian gods were carried about, were regarded as their resting places. Cf. also Eg. *dep-t*, "a ship." The infant Moses' "ark" is a *tebah*. Exod. 2. 3.

<sup>2</sup>Perhaps an alternative version of the preceding line. Delitzsch renders the two lines: "The storm's beginning saw I; to experience the storm I had fear." But it was at nightfall that the warning came. The storm burst the next morning.

- Amos 5. 8.* The Anunnaki (earth-spirits) lifted torches;  
With their sheen they lighten the world.  
Rimmon's violence reacheth to heaven;  
Whatever is bright he turneth into darkness.  
. . . . .  
One day the southern blast . . . . .  
Hard it blew, and . . . . .  
Like a battle-charge upon mankind rush [the waters].  
One no longer sees another;  
No more are men discerned in (described from) heaven.  
The gods were dismayed at the flood, and  
Sought refuge in ascending to the highest heaven (*lit.*  
the heaven of Anu):  
The gods cowered like dogs; on the battlements (of  
heaven) they crouched.
- Jer. 6. 24.* Ishtar screams like a woman in travail,  
The loud-voiced Lady of the gods exclaims:  
*Gen. 3. 19.* "Yon generation is turned again to clay!  
As I in the assembly of the gods foretold the evil—  
Like as I foretold in the assembly of the gods the evil;—\*  
A tempest for the destruction of my people I foretold.  
But I will give birth to my people (again), though  
*Isa. 64. 8.* Like the fry of fishes they fill the sea!"  
*Hab. 1. 14.* The gods because of the Anunnaki wept with her;  
The gods were downcast, they sate a-weeping;  
Closed were their lips . . . . .
- Gen. 7. 12, 17.* During six days and nights  
Wind, flood, storm, ever more fiercely whelmed the land.  
When the seventh day came, storm (and) flood ceased  
the battle,
- Gen. 8. 1.* Wherein they had contended like a host:  
The sea lulled, the blast fell, the flood ceased.  
*Gen. 7. 21. sqq.* I looked for the people [*udma*], with a cry of lamentation;  
But all mankind had turned again to clay:  
The tilled land was become like the waste.
- Gen. 8. 6.* I opened the window, and daylight fell upon my cheeks;  
Crouching I sit (and) weep;  
Over my cheeks course my tears.
- Gen. 8. 5.* I looked at the quarters (of heaven), the borders of the  
sea;  
Toward the twelfth point rose the land.  
To the country of Nizir the ship made way;  
*Gen. 8. 4.* The mountain of the country of Nizir caught the ship,  
and suffered it not to stir.  
One day, a second day, the mountain of Nizir, etc. (as  
before);  
A third day, a fourth day, the mountain of Nizir, etc. (as  
before);  
*Gen. 8. 6-12.* A fifth, a sixth, the mountain of Nizir, etc. (as before).  
But, when the seventh day was come,  
I brought out a dove (and) let it go.  
The dove went to and fro, but  
Found no foothold (*lit.* standing-place), and returned.  
Then I brought out a swallow (and) let it go.  
The swallow went to and fro, but

\*Variant rendering of the previous line.



- Found no foothold, and returned.  
 Then I brought out a raven (and) let it go:  
 The raven went off, noticed the drying of the water, and  
*Gen. 8. 17, 20.* Feeding, wading, croaking, returned not.  
 Then I brought out (everything) to the four winds,  
 offered victims,  
 Made an offering of incense on the mountain top;  
*Num. 23. 1, 29.* Seven and seven tripods I set,  
 Into their bowls I poured calamus, cedar, fragrant herbs;  
 The gods snuffed the odour,  
 The gods snuffed the pleasant odour,  
*Gen. 8. 21.* The gods like flies swarmed above the sacrificer.  
*Lev. 26. 31.* But when Ishtar was come from afar,  
*Gen. 9. 13-16.* She lifted up the Great Gems (?),\* which Anu had made  
 to adorn her.  
 "These gods," (she cried) "by mine azure collar (*lit.* by  
 the lapis lazuli of my neck), I will never forget!  
*Gen. 8. 1 ; 9. 15.* These days will I bear in mind, and nevermore forget!  
 Let the gods go to the incense-offering:  
 (But) let Bel never go to the incense-offering!  
 Forasmuch as he took no counsel, but caused the flood,  
 And delivered my people to destruction."  
 But when Bel was come from afar,  
 He saw the ship, and Bel waxed wrathful;  
 He was filled with rage at the gods, (and) the Igigi (*i.e.*  
 the spirits of heaven):  
 "Some soul" (he cried) "hath escaped!  
 Let not a man survive the destruction!"  
 Ninib frameth his mouth and speaketh—  
 He saith to the warrior Bel:  
 "Who then but Ia doeth the thing?  
 Ia is versed in every wile."  
 Ia frameth his mouth and speaketh—  
 He saith to the warrior Bel:  
 "Thou, O sage of the gods (and) warrior—  
 In nowise hast thou been well-counselled in causing a  
 flood!  
 On the sinner lay his sin!  
 On the guilty lay his guilt!  
 (But) remit (somewhat)! let him not be cut off! for-  
 bear! let him not [be swept away]!  
 Instead of thy causing a flood,  
 Let the lion come and minish mankind!  
 Instead of thy causing a flood,  
 Let the Leopard come and minish mankind!  
 Instead of thy causing a flood,  
 Let famine break out and [desolate] the land!  
 Instead of thy causing a flood,  
 Let pestilence (*lit.* Girra; *i.e.* the god of plague) come  
 and slay mankind!  
*Job. 4. 12, 13.* I divulged not the decision of the mighty gods;  
*Gen. 6. 9.* (Someone) caused Atranasis to see visions, and so he  
 heard the decision of the gods."

\*The character for TUM, "flies," "insects." Cf. the Chinese *tum, tung*, "rainbow," which is written with the same character denoting "insects." The Babylonian myth evidently regards the rainbow as the great jeweled collar of Ishtar, held up, archwise, in heaven.

- Thereupon he took counsel with himself (*or* made up his mind);  
 Bel came on board the ship,  
 Seized my hand and led me up (out of the ship),  
 Let up my wife (and) made her kneel beside me;  
*Gen. 9. 1.* He turned us face to face, and standing between us  
 blessed us, (saying):  
 "Ere this, Nûh-napishtim was human;  
*Gen. 3. 5, 22.* But now Nûh-napishtim and his wife shall be like us gods!  
*Gen. 2. 10-14.* Nûh-napishtim shall dwell far away (from men), at the  
 mouth of the rivers!"<sup>1</sup>  
*Gen. 5. 24.* Then they took me, and made me dwell far away, at the  
 mouth of the rivers.

\* \* \* \*

### COME WITH ME INTO BABYLON

COME WITH ME INTO BABYLON<sup>2</sup> is a story of the fall of Nineveh. It combines in a rare degree two most important features in the field of historical fiction—historical facts interwoven in a story of absorbing interest. The author of this story is one of the busiest and most successful editors in the field of daily journalism. To have acquired the knowledge of the history of those two great centers of civilization in the Tigro-Euphrates Valley, Babylon and Nineveh, from the results of historical research, must have required years of study, for the story from first to last evinces great familiarity with what the spade has brought to light bearing upon Babylon and Nineveh.

The story begins at night in Babylon, during one of the great religious festivals. The leading characters are Khar-Mes, the great high priest of the Temple, now being excavated by the Babylonian Expedition of the German Oriental Society, Cleon, a Grecian officer, Lady Harmitu, the wife of a slave dealer and her steward, and a slave, a favorite girl of her household; a Grecian maiden who had fled from her home to Babylon in search of her lover, Orman, a Jew, Talmi, the son of a deposed Judean King; intriguing priests of the temple and the two great rulers of Babylon and Nineveh. The story covers the most exciting period in the history of the latter.

Fiction has only been used when it was necessary for the imagination to picture details of the great historical events, as they have been brought to light by the students of historical research in the Tigro-Euphrates Valley. Notwithstanding the thrilling events narrated in one of the greatest dramas of the world's history, the reader finds nothing improbable in the scenes narrated, so familiar is the author with Babylonian and Assyrian history and also, we may add, with the national traits and character of the Jews. When the author reaches the siege and closing scenes in the fall of Nineveh, a truly wonderful picture is presented to the reader.

<sup>1</sup>The site of the Babylonian Paradise, at the mouth of the four rivers, Euphrates, Tigris, Karun, and Kerkha. This suggestion, and some of the renderings here adopted, are due to Professor Paul Haupt, the principal authority on the original text.

<sup>2</sup>*Come With Me Into Babylon.* A story of the fall of Nineveh by Josiah M. Ward. Illustrated by James E. McBurney and W. B. Gilbert, 8vo. 439 pp. New York: Frederick A. Stokes Company.



The giving place in RECORDS OF THE PAST to a notice of Mr. Ward's story *Come With Me Into Babylon* is not owing to the fact that he has written a story exceedingly interesting, but because he has truthfully, as we are in a position to state, interwoven great historical facts that the spade of the excavator has brought to light.



"AND NINEVEH WAS LAID WASTE AND WAS OF OLD LIKE  
A POOL OF WATER."—Page 439.

The story is one of the few great works in the field of historical fiction that will survive the present age. We doubt very much whether the results of historical research will reveal much in the next decade that would cause the author to modify his work. As he conducts us through the streets of perishing Nineveh and outside its walls to gaze upon its smouldering ruins, we cannot help but turn to Babylon, her victorious rival, and the doom pronounced by the Prophet.

And Babylon, the glory of the kingdoms, the beauty of the Chaldees' excellency, shall be as when God overthrew Sodom and Gomorrah. It shall never be inhabited; neither shall it be dwelt in from generation to generation; neither shall the Arabian pitch tent there; neither shall the shepherds make their fold there. But wild beasts of the desert shall lie there; and their houses shall be full of doleful creatures; and owls shall dwell there, and satyrs shall dance there. And wild beasts of the islands shall cry in their desolate houses, and the dragons in their pleasant palaces; and her time is near to come, and her days shall not be prolonged.

Wonderfully true has that prophecy been fulfilled and the three years' work of the German Oriental Society in its ruins has thus far illustrated its truthfulness.

It is especially appropriate that we close this volume with a notice of one of the most interesting historical novels that has ever been written, for the next volume will open with an account of the German explorations in Babylon. Changed, indeed, are the conditions now existing on that historic plain from what they were when Mr. Ward introduces us to that world-renowned city. With the setting Sun of the day Alexander the Great departed this life in the palace Nebuchadnezzar built, Babylon was lost to the world, and to-day is but a memory of the past.



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SUNSET FROM WALPI, ARIZONA



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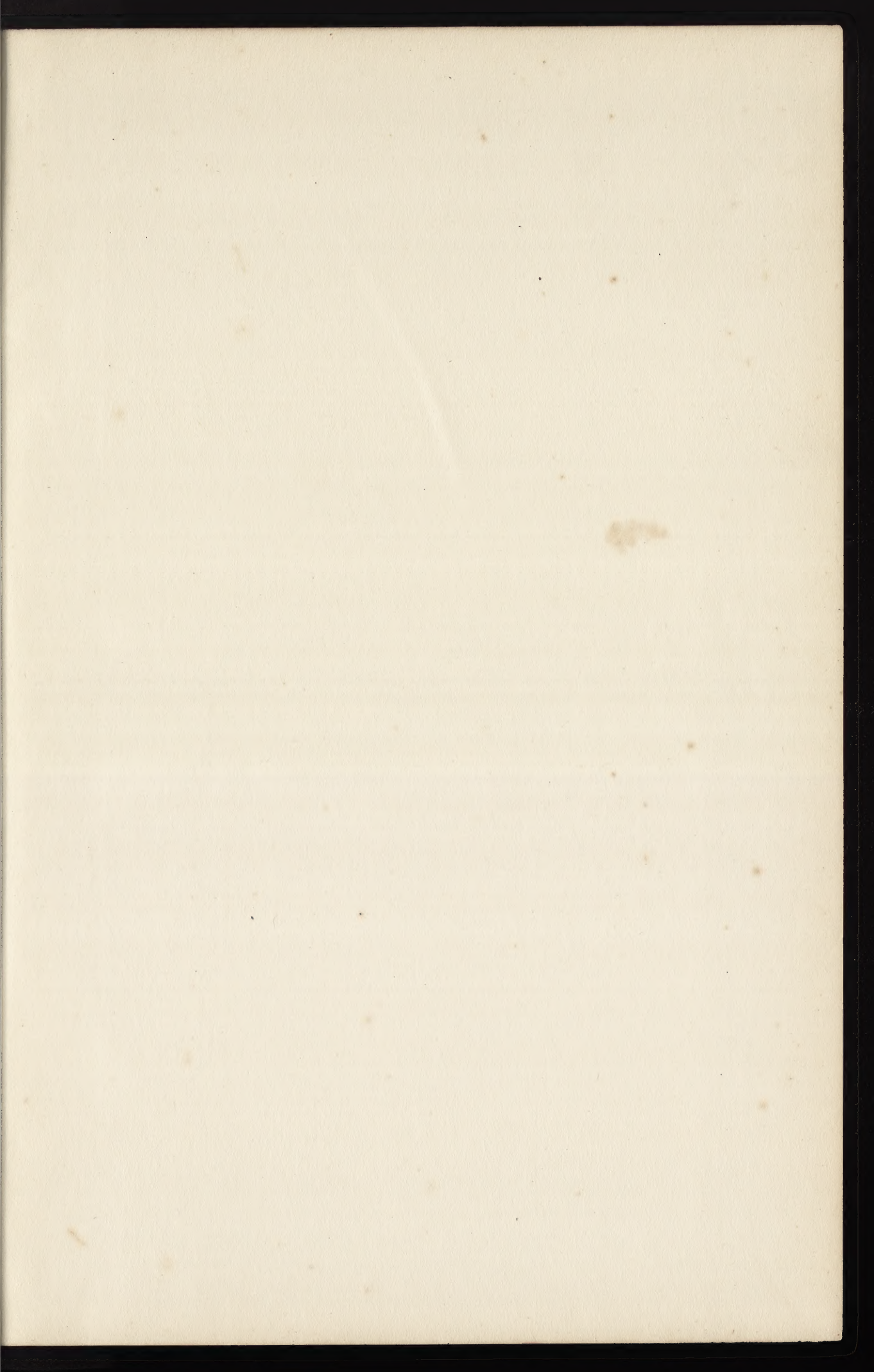
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